ISSUE 6 • MARCH 1987 • £1.25

8000 PLUS

THE MAGAZINE FOR THE

AMSTRAD

PCW 8256-8512

TAKE TIME OUT

Read about this clock module with an interface thrown in

NO!

We show the *right* way to transfer files from a PC

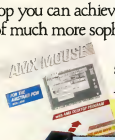
Masterfile review • Graphics operating system • Database competition

What's so special about the Mac, the Atari St, The Amiga, Windows and Gem?

It's no surprise that nearly all new 16 bit 'state of the art' micros now come with a Mouse and Wimp environment (Windows, Icons, Menus and Pointers) as standard.

With the AMSTRAD PCW you already own one of the classic micros and by simply adding the AMX Mouse and Desktop you can achieve the same ease of use, freedom and versatility of much more sophisticated computers.

The AMX Mouse and compatible software – it's what you and your AMSTRAD micro have been missing.

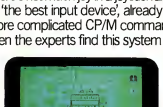


AMX MOUSE PACKAGE 3" DISC £79.95

There's not much joy in a joystick and keyboards can be all fingers and thumbs. Acclaimed by the press as 'the best input device', already over 50,000 micro users have adopted an AMX Mouse. No more complicated CP/M commands to remember, with the AMX Mouse you just point and click, even the experts find this system more efficient. Available for the Amstrad PCW 8256 & 8512.

GRAPHIC FRONT END

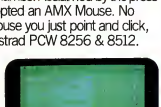
Provides an easy to use graphic based front end to your computers disc filing system including a comprehensive set of disc management operations such as cataloging, coping, deleting, re-naming and formating. There's no need to enter a command to run programs from disc, just point the mouse at the representing icon and click the button.



TELEPHONE ADDRESS BOOK

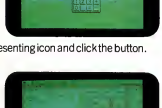
A central place to store all your important names, addresses and telephone numbers.

A database type search facility allows you to enter any part of the information such as a persons' name, company name, town etc and instantly see the matching entry.



DESK DIARY

A versatile appointments diary allowing you up to seven lines to be entered for any day. Printing facilities allow yearly and monthly summaries to be produced indicating days for which an entry has been indicated.



MEMO PAD

This allows anything from a quick memo to a complete multi-page report to be produced from the Desktop. Many word processing features are included such as centering, justification, cut, copy and paste etc.

DESK ACCESSORIES

The AMX Mouse package also includes a number of extra functions which are available for use at all times from the desktop. These include a jotter, alarm clock, calculator, puzzle and control panel – the type of tools found on a real desk top!

STOP PRESS... STOP PRESS...

There will be a growing list of further mouse compatible software for the Amstrad PCW from AMS and other leading software houses in the coming months including Graphic and Desktop publishing programs.

This superb product is available now from all good computer dealers or direct by cheque, Access or Visa. All prices include VAT and post and packaging.

FOR INSTANT ACCESS/VISA ORDERS TELEPHONE (0925) 413501/2/3

AMX SOFTWARE

IMAGINATION AT YOUR FINGERTIPS

ADVANCED MEMORY SYSTEMS LTD. 166/170 WILDERSPOOL CAUSEWAY, WARRINGTON, WA4 6QA. TELEX 628672 AMSG. FAX 0925 58039.

TUBELINK ON PRESTEL PAGE 2582182 SUPPORTS THE AMX MOUSE AND ALL AMS SOFTWARE

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OPENING MENU

OPENING MENU

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Cracker2

The professionals' choice.

If you want a spreadsheet for the PCW8256/8512 that includes the more advanced features that other 8-bit CPM spreadsheets left behind when 16 bit PC developments become the vogue - then you have only one choice. **Cracker2.**

There is an unmatched range of *high resolution* graphics, which are created from embedded functions in the sheet itself, I/O control for the scientific user. Do-while loops for the goal seeking financial wizzard. Cracker2 has the lot, and more besides. Cracker is another NewStar product that bridges the gap between the PCW8256 and IBM PC, because although the limited features of other spreadsheets may be adequate for novice users, wouldn't you prefer to use a program that is upgradable to more micros than any other graphics spreadsheet ?

Cracker2- £49 inc VAT

• Cracker2 offers the serious spreadsheet user the following important features in addition to the *'common'* ones:

☆ User area management (essential for large capacity disk users)
☆ Contextual help at every step of the way, just press '?'
☆ Sideways printout on the PC8256 or Epson compatible printers
☆ Automatic date and calendar calculation facilities
☆ Control of input and output to & from a port address: read the temperature from your greenhouse and set the heating according to the season (in conjunction with the date functions!)
☆ Enhanced editions (Cracker3) available on the IBM PC to run under Concurrent CPM, DOS Plus or MSDOS
☆ Multiuser support with shared file security
☆ Facilities to embed printer control characters
☆ Sparse matrix storage techniques for maximum efficiency
☆ Create and store standard standard templates
☆ Macros to simplify repetitive keyboard tasks
☆ Automatic verification and check on the order of calculation to avoid the forward referencing problems that can afflict other spreadsheet systems, and thereby cause considerable inaccuracies
☆ Comprehensive installation and customisation options
☆ Simple database facilities for mailing label and list printout
☆ DIF, comma delimited and ASCII data import/export built-in

NEW STAR

Software Limited
200 North Service Road
Brentwood, Essex
CM14 4SG
sales: tel 0277-220573
tlx 995194 NEWSTA G
fax 0277 232637

ABOUT THE PC EDITION

For only £69, you get in addition: colour graphics (16 colour on the Amstrad PC), the powerful option of memory residency, mouse control, high speed scrolling, quick graph option, and now also a GEM™ edition. All data is interchangable.

ALL REGISTERED TRADEMARKS RECOGNISED

Ringing the changes

Far be it for 8000 Plus to boast of it's effect on the software industry, but it's interesting to note that the main criticism of Encyclasoft's FT=DB, reviewed last month, has now been removed. If you remember, we said it was a shame that you couldn't select an entry in the index and move straight to the corresponding entry in the text database. Well, now it's not, and you can. Price is the same, and it probably warrants an extra box undef 'Range of Features', so here it is .

Another magazine!

Those of you who write for your livings might be interested to know of a bi-monthly magazine devoted to writers and their word processors. In addition to a regular PCW column, it contains interesting features and interviews with many professional writers. It's entirely produced on an Apple Macintosh with a Laser Writer for output.

Having said all this, it's obviously not an alternative to 8000 Plus, though it might well make a useful addition to your library of periodicals. Write to David Hewson, Mandarin Publishing, The Old House, Church Road, Kennington, Ashford Kent TN24 9DQ, or send him £8 for a year's subscription.

Public Domain Private Domain

It all gets very confusing. There are a number of well-known programs for the PCW which are in the Public Domain, and may therefore be freely distributed with their author's blessing. However, there are others, often from the same stable, which are not and from which the author is trying to scrape a paltry living.

One such set of programs should be familiar to any subscriber who's received our free software disc. For the record, Scrivener is a Public Domain program and may be given (though not sold) to your friends and relations. Spool is not Public Domain, and neither is Shell. Although you may use both of these of the disc we supplied, they shouldn't be given away. Incidentally, anyone who wants to get more out of Scrivener can buy a full manual (different from the one on the disc) and a set of example files for £19.95 from MML Systems, 11 Sun Street, London EC2.

letters begin

Every morning, at around nine, a sack of mail is delivered at the Old Barn. This is duly sifted and sorted by magazine and department, 150 entries for the latest 8000 Plus competition are put to one side and those marked Post Script, TipOffs, Case In Point (a lot of these), The Editor or 8000 Plus land in a heap on our desks.

There is very little in common in the external appearance of these letters. They come in all sizes and colours of envelope, some hand written, most Locoscripted, and an increasing number in window envelopes, which saves the hassle of printing labels. The contents, however, fall into several main groups.

They show a wide range of interests and professions among our readers. There is a large group of clergy, who seem to get more from their PCWs than most. There's the genealogy contingent, who know their lineage back to the Norman conquests, through butchers, bakers, concubines and other minor royalty. There are the programmers, who are always requesting further details of CIS CoBOL or more machine code listings. There are the pedants, who aren't prepared to give us the benefit of the doubt, and want to teach us the difference between 'its' and 'it's'...again.

I never cease to wonder at the interests of our readers. We've received over two dozen letters in the last month pointing out how leap years work, and when Pope Gregory came to the fore in Scotland. Questions from readers provoke answers from others. If I print a question in one issue, I can almost guarantee we'll have two or three solutions within the month. It all makes for an interesting, and highly amusing life.

I hope you don't think I'm complaining about all this. As well as the occasional cry of 'not another grammar fiend!', there are many more mumbled exclamations of 'Hey, that's good' and 'I didn't know that'. We learn more about the old PCW every day through your letters and TipOffs and it's only through a continued stream of them that we can keep the magazine lively and full of useful information. Without your contributions, 8000 Plus would be many pages thinner and, I think, a lot less attractive.

Simon Williams

8000 PLUS

The APRIL issue of 8000 Plus is due on THURSDAY MARCH 12th.
Give your newsagent a break – subscribe.

BUILD YOUR OWN RECORDING STUDIO

Electromusic Research of Wickford in Essex are shortly to release a special interface and software to allow Amstrad PCWs to connect and control a variety of musical instruments. If you own a keyboard (of the musical variety, not a QWERTY one) or any instrument with a 'Midi' interface, you will be able to use your PCW as an 8- to 29-track recording studio and synthesiser.

Modern musical instruments, being microprocessor controlled, are basically computers in their own right. With a little electronic wizardry then there is no reason why you can't connect *bona fide* computers up to instruments, and have the one controlling the other. To this end, instrument manufacturers have more or less standardised on an interface called a 'Midi' interface. Midi stands for 'Musical Instrument Digital Interface', and computers can plug into this interface and take control.

Electromusic Research's 'EMR Performer' package does just this. The product has been selling for some time now on other computers – visitors to any of the computer shows over the last year or so can't have failed to notice the loud demonstrations conducted by the ebullient Mr. Belcher. 8000 Plus was lucky enough to have a stand right next to EMR at a show in September; three days of continuous demonstrations certainly made an impression on us.

EMR Performer allows you to store many tracks of music at a time, merge them, play them back at varying speeds and pitches at full blast through your Hi-Fi, and annoy your neighbours in countless other ways. Unfortunately, you still have to have some musical talent to use it.

The EMR Performer software together with the Midi interface for the PCW end of things will cost £129.85 – EMR will be able to give further info on 0702 335747.

▼ EMR Performer doing its stuff on an Amstrad CPC6128

SIGN OF THE TIMES

If you mount displays, or print posters, you might be interested in a new program from Wright Scientific, *Signwriter*.

Signwriter is a program which will print out any message you give it as a banner headline on the PCW printer. The size of the text is limited only by the paper size, but you can print messages both across the page and rotated. This means that you can have very long messages printed out on continuous stationery, with letters up to a page-width high.

Signwriter can produce all the standard characters, plus punctuation and even simple accents like é, ô. It can underline messages, print them in boxes as well. The characters are a specially designed font, built up of high resolution dots – the headline to this news item was actually produced with Signwriter, although it has been slightly photoreduced which tends to improve the quality.

Sign on to Wright Scientific at the end of 01-858 2699.

EXPANDING YOUR PCW

Silicon City, suppliers of upgrade kits for both memory and disc drives for PCWs, are trying to encourage more 8256 owners to upgrade to full 8512 specification.

Many owners of PCWs now have machines over a year old, which are therefore no longer under guarantee. Fitting your own memory or disc drive upgrade will void your guarantee, but if it has already run out, what have you got to lose? If you are interested in turbocharging your 8256, Silicon City are offering to send out copies of their information and instruction leaflets so that you can see exactly what work is needed.

8512 owners get many benefits over 8256 owners: there's hardly any disc swapping needed no matter what software you run, and the extra memory means you can run all kinds of software faster. The large LocoSpell dictionary really needs an 8512 for best effect.

To get the information sheets, send £1 to Silicon City at Mithian, St. Agnes, Cornwall, TR5 0QE. If you eventually decide to buy, the £1 cost is refunded to you against your purchase. A memory upgrade costs around £25, and a second 3" disc drive around £140.

BUSY TIMES FOR IDLE HANDS

Alligata Software of Sheffield have converted their well-received games *Guardian* and *Blagger* for the consideration of discerning PCW users. Also for games fans is *Brian Clough's Football Fortunes* from CDS Software.

Blagger is a a 20-screen platform game where you play the master burglar, going round collecting keys in order to get to the safe. Guardian on the other hand is a classic space arcade game, offering the budding fighter pilot "fast, frenetic action rescuing humanoids and shooting down the waves of baters, landers, swarmers and mutants." It can be controlled by a joystick if you have one. The two games are being sold together on one disc for £14.95, from Alligata at 0742 755796.

Football Fortunes is a game with a difference – for the £17.95 asking price you get a disc, a playing board, counters, money and footballer cards. It is a game for two to five players, where you have to guide your team through the season safely, shouting at various strategic points the keys phrases "over the moon, Brian" and "sick as a parrot". Ring CDS on 0302 21134 if tempted.

MODERN MODEMS

News for PCW communications fans, as two new modems are released.

First, the *Linnet* from Pace Micro Technology is aimed at the budget market. Costing £139+VAT, it boasts all the normal operation speeds, can store 32 numbers in a battery backed memory, and can do autodial, autoredial and autoanswer.

Secondly, although not really new as such, is a special edition of the established and successful Miracle Technology *WS4000*. 'Special' means that it now comes with a built in serial interface for PCW users, so you don't have to shell out the usual £50 for Amstrad's CPS8256 unit. It's all yours for £195.50.

Pace are on 0274 488211, and Miracle Technology on 0473 216141. Don't get the manufacturers and models confused –you'll only hurt Pace's feelings if you ask them to sell you a WS4000.

ALLERGIC TO SPELLING?

Spelling checker programs are all very well at picking up ordinary English words, but if you aren't quite sure whether allokeratoplasty has one or two 'l's then you aren't going to get much help.

But now medical people with an addiction to LocoScript can get a pain-reliever in the form of MedSpell. This is a specially compiled dictionary of 16,500 medical terms designed to work with Locomotive's LocoSpell program.

Costing £19.95, MedSpell is simply a file which you incorporate into LocoSpell like any other user dictionary. There are two dictionary sizes to cater for user of 8256s and 8512s. MedSpell is being marketed by MedStat ltd, whose phone number is 0602 411120.

YOUR OWN TWO FEET

These two little feet screw onto the back of the PCW keyboard, raising it to an angle which you may find more comfortable for touch typing. They cost £3.95, and are available from Pixelart Studio 0533 606830.

CURRYING FAVOUR

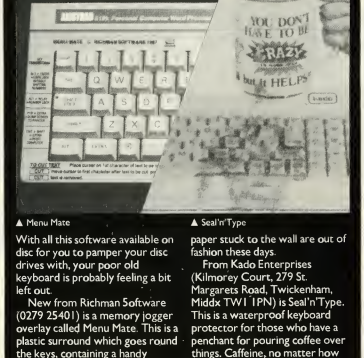
Seen as the entry for the Arnor stand at January's Amstrad User show. Personally, I'd throw in a few chillies too.

STAND-BY-STAND GUIDE

Stand 109
Arnor, 118 Whitehorse Road, Croydon, Surrey CR0 2JF. Tel 01-684 8009.
Cut the cucumber into small cubes and boil until tender. Add onion, powder and green masala. Cook for two minutes. Add the fish stock, garlic, bouquet d garni, tomato purée and simmer for 30 minutes. Add prawns, sugar, coconut milk, tabasco and wine. Simmer gently for twenty minutes. Add liquid as required. Gently stir in prawn paste and return to the boil. Remove top case from the computer and pour in the contents of the pan. This may affect the computers guarantee, but it will certainly run faster, with the added bonus that your disks are now copy protected.

Stand 110/111
ASD Peripherals, Aston Science Park, Lowe Birmingham B74BU. Tel 021-359 0981.
The main product on display will be a hard disk unit for the PCW8256/8512. The PCW8310 hard disk, a cheaper version of CP/M plus is also available, and will make use of both types of the PCW8000.

KIND TO KEYBOARDS



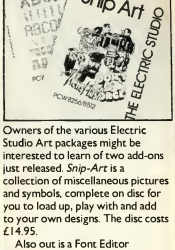
▲ Menu Mate ▲ Seal'n'Type

With all this software available on disc for you to pamper your disc drives with, your poor old keyboard is probably feeling a bit left out.

New from Richman Software (0279 25401) is a memory jogger overlay called Menu Mate. This is a plastic surround which goes round the keys, containing a handy reminders on how LocoScript works. Menu Mate costs £6.99 plus £1.25 p&p, and future versions are planned to cover WordStar, dBase II and others. Obviously pieces of paper stuck to the wall are out of fashion these days.

From Kado Enterprises (Kilmorey Court, 279 St. Margarets Road, Twickenham, Middx TW1 1PN) is Seal'n'Type. This is a waterproof keyboard protector for those who have a penchant for pouring coffee over things. Caffeine, no matter how good it makes you feel, does not usually perk up computers. Seal'n'Type costs £7.50, plus £1.25 p&p.

ELECTRIFYING PRODUCTS

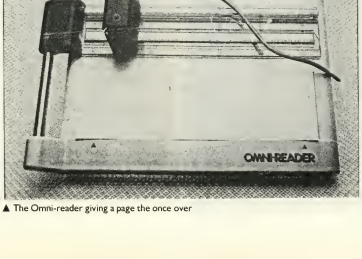


Owners of the various Electric Studio Art packages might be interested to learn of two add-ons just released. *Snip-Art* is a collection of miscellaneous pictures and symbols, complete on disc for you to load up, play with and add to your own designs. The disc costs £14.95.

Also out is a Font Editor package, which allows you to define your own text fonts in the Art program. The editor disc effectively includes a software upgrade to the art package, giving you extra functions like flipping, rotating and stretching regions of the screen. This little lot costs £19.95.

Either or both can be got from the Electric Studio on 0462 675666.

HEAR ALL, SEE ALL, READ ALL



▲ The Omni-reader giving a page the once over

Bargain hunters will be interested to hear of a scoop purchase to be had. The Omni-Reader, by Oberon, is an optical character reader. This is a device which allows you to directly input pages of typed text into a computer, without paying a fortune in typists fees.

Originally priced at £460, such was the success of the Omni-Reader that Oberon quickly sailed down the Swannee. However, the remaining stocks of the Omni-Reader have been bought up and are being offered for £49.99 each. In addition, you'll need to own a serial interface for your PCW.

To use it, you place the page you want to scan on the tablet, move the ruler down the page line by line, scanning the reader head over the page. It can read four typefaces from typewriters or daisywheel printer, and can decipher photocopies. It won't read dot matrix text or handwriting.

If you do a lot of copy typing onto computers, the Omni-Reader could be a real boon. After-sales support will be pretty minimal, but yer pays yer money and yer takes yer chance. If interested, contact Metroheath Ltd at 287-287 Whitechapel Road, London E1.

Caught In The Text Net

From translating text into foreign languages to typesetting books – the Textnet system now lets you do it all from your PCW.

'Electronic mail' promises to revolutionise modern business and personal communication, but sometimes it seems like a solution looking for a problem.

Robert Rooke had for many years run Languages and Artwork Ltd, a company offering translation and documentation services, and he began communicating with foreign clients with the aid of a modem and some large phone bills. When electronic mail began to take off, he quickly realised the potential it offered his line of business, and with the subsequent help of his twin brother David he began to organise Textnet.

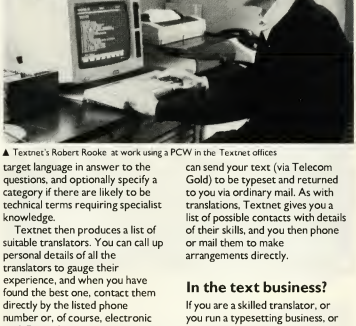
Textnet is, in essence, a directory and contact agency for people needing to use a variety of text related activities. These might range from authors who need a tape transcribed by an audio-typist, to manufacturers who need a product manual typeset and printed, to translating a letter from Spanish into French.

It is a service run through the well known Telecom Gold electronic mail system. This means that the only requirement before you can use Textnet are a computer (PCWs are ideal) and a 'modem' – an attachment to allow your PCW to transmit and receive data through an ordinary telephone line.

Using Textnet

To get going, you first have to log on to Telecom Gold, and then give the command to access Textnet. The Textnet main menu then appears offering you translations or 'services'.

Suppose you need to have a document translated from German to English: you would type 'T' for Translate, specify German as the source language and English as the target language in answer to the questions, and optionally specify a category if there are likely to be technical terms requiring specialist knowledge.



▲ Textnet's Robert Rooke at work using a PCW in the Textnet offices

Textnet then produces a list of suitable translators. You can call up personal details of all the translators to gauge their experience, and when you have found the best one, contact them directly by the listed phone number or, of course, electronic mail. From this point on, you forget Textnet and make direct arrangements with the translator to fix prices, collection and delivery arrangements and so on.

Aside from translating, the 'services' option gives you a whole host of facilities. For example, if you need a brochure printed, you can send your text (via Telecom Gold) to be typeset and returned to you via ordinary mail. As with translations, Textnet gives you a list of possible contacts with details of their skills, and you then phone or mail them to make arrangements directly.

In the text business?

If you are a skilled translator, or you run a typesetting business, or in fact any service to do with the preparation or production of text, then you can use Textnet to get business. You can work from home or even abroad, as long as you have the essential tools of a computer and a communications modem setup.

Simply contact Textnet and ask to be registered as a service supplier. You fill in a registration form detailing what services you are offering, and write a profile of your experience to allow customers to see who you are. Textnet don't vet service suppliers as such, but David Rooke points out that the standards required of a professional translator are quite high – he usually advises people if he feels they won't earn their registration fee back.

Textnet has already provided the means for several small businesses to start up. Translators aside, one lady in Surrey has built up a thriving laser printing bureau, receiving text through her mailbox, laying it out on a page makeup program and returning the laser printed output.

Foreign characters

As anybody who has tried to work with foreign languages on a computer knows, a major problem is how you type foreign characters and accents in a text file. In particular, Telecom Gold is a '7 bit' service, which means you can't send LocoScript files.

Textnet have a partial solution to this, through their ROSETTA program. This lets you define a set of conventions to convert, for example, the PCW's é character into the two characters }e, which can then be sent normally over Telecom Gold. Once the file is received, your recipient can run ROSETTA again to reconvert the }e back to é. The only remaining problem is finding a printer which can physically print the foreign characters.

A version of ROSETTA specially designed for PCW users costs £50.00 including VAT. Versions of ROSETTA for other computers cost £75.00.

▼ The full list of services you can get, as seen on screen while using Textnet.

```
TELECOM GOLD PSS  300          Terminal                    00:01:39E

 Services Menu
 -------------

 1 Translations
 2 Transcription Services
 3 Word Processing Bureaux
 4 Typesetters and Typesetting Services
 5 Automated Text Capture Services
 6 Writers (Copywriters - Editors - Technical Authors)
 7 Business Graphics - 35mm and Overhead Projection Slides
 8 Laser Printing Services
 9 Design and Print Production Specialists
10 Public Relations
11 Market Research
12 Disc uploading/downloading
13 Index of Service/Information Providers in all Categories
14 Profiles of Service Providers
15 Other Skills - Languages/Categories
16 List of Textnet Languages available
17 List of Textnet Categories available
99 Return to main menu

   Enter Option : ■

F1 Dis-connect | F2 Send ID | F3 File Display | F4 Capture Text | F5 Break | F6 | F7 Send Mail | F8 Help
```

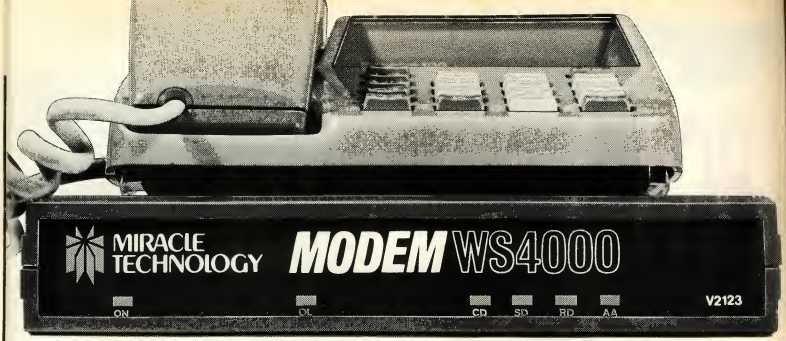
How much, and how?

Like any 'on-line' service, you pay a registration charge to get going on Textnet, and then you are billed monthly depending how much you use the system.

As a simple user, your annual registration fee is £57.50, which includes VAT and your Telecom Gold mailbox. There are no minimum monthly billings for Textnet mailboxes (unlike Gold's £10 per month), so even if you never use Textnet itself it seems to be a cheap way for occasional users to get onto Telecom Gold! This means you have all Telecom Gold's features at your disposal too, including Telex facilities if you need them. From then on, you pay 11p per minute between 8am and 7pm on weekdays, or 3.5p per minute at other times, while you are on Textnet. Alternatively, if you are already registered on Telecom Gold, you can access Textnet like any other 'open database' for the standard charge of 50p per minute.

If you want to be a service provider, you pay an annual standing fee of £115.00 (or £230.00 if you are a company), which again includes your Telecom Gold registration and VAT. You also pay the standard connection charges for using Textnet.

For more details contact David Rooke at Textnet on 01-242 2082, or write to 10 St. Cross Street, London EC1N 8UB. He will also advise on suitable modems and communications software to buy, and on Textnet training.



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PC ⇔ PCW ⇔ PC

Taking text files home? Sharing spreadsheets? Here's how.

PCWs are often bought as second micros in offices which already have other computers to perform the more 'macho' tasks. There are also many readers who use their PCWs at home, while being forced onto other machines at work. In both these cases it is very useful to be able to transfer data from one computer to the other.

File transfer allows you to share information between more then one type of micro, and to work on the same material in two or more locations. It's important to remember you can only usefully transfer data and not programs in this way. Programs written for a CP/M machine will not run on an MSDOS machine, and vice versa.

You can swap data either by taking a disc from one machine and running it on the other, or by connecting the two micros together with a cable and passing the files between them. Both methods are available for those wanting to transfer data from an IBM PC (or PC 'clone') to an Amstrad PCW, and back.

Driving Test

The easiest way to transfer data is via a disc. To take a disc from one micro and run it in another is a very simple way of moving data around, but what are the problems?

There are two fundamental differences between the disc systems of a PC and a PCW, though neither is insurmountable. The operating systems of the two micros are different, which means that the way information is recorded on a disc (the disc 'format') also differs between the two. As most PCW users will know, their machines use an operating system called CP/M Plus. This is an older and rather more basic operating system than the PC's, which is called MSDOS (short for MicroSoft Disc Operating System). Any file transfer program for the PCW has to be able to read a disc in MSDOS format.

The second difference, and one which appears superficially harder to solve, is that the PCW uses 3" discs, while the PC uses larger and thinner 5.25" discs. The way around this, though, is to add a 5.25" drive to the PCW in place of the second 3" drive (drive B:). There are several companies who will supply such a drive, and all of them have seen the potential of transferring files to and from a PC and can supply software to do the job. Most of the external drives are fitted in place of the internal 3" unit, so we're mainly concerned with upgrading PCW8256s.

5.25" disc drive £177.50-drive £23.50 (£36.00)-software● Box ● 0865 717968

Hardware

The Box drive is a very solidly made, metal-cased unit with a grey anodised case. The disc drive itself is from Matsushita in Japan and is quiet and fast in operation. It doesn't include a power supply, and draws its power instead from the lines supplied inside the micro for the second 3" drive.

This is not the best state of affairs, as the PCW supply is quite stretched anyway, and you may notice some flickering on the screen when you load or save files. In use, though, it proved completely reliable, and the same flickering can be seen on some PCWs with a second internal drive.

The drive is 40 track double sided, so has half the capacity of drive B: on a PCW8512. Box do market an 80 track 5.25" drive which has identical capacity to an internal drive B:, but this drive won't work with their PC file transfer software.

Software

Box's software to copy two and from a PC format disc is called Xeno, from the Latin for 'alien'. It allows you to copy files from and to drives A:, B: and M: without having

The Box 5.25" external disc drive

to concern yourself about the format of each. You designate one drive for the CP/M files and one for the MSDOS ones.

Xeno lists out all files on the disc and you can move through them, tagging those you want to copy. All the tagged files can them be copied in one go, and Xeno takes care of the two different formats. The program is well designed and very easy to use.

Xeno can also convert a CP/M format 5.25" disc to MSDOS format. Since Box also supply a formatting program which can format a disc in Amstrad 40 track format, this effectively means you can format an MSDOS disc on your PCW, which is very useful. Xeno is available separately, but at a higher price.

5.25" disc drive
£209 • Timatic Systems • 0329 236727

Hardware

The Timatic drive is rather different from the Box unit. For a start, it uses a 40/80 track switchable Mitsubishi drive, which means you can use it as a direct replacement for a 3" B: drive when switched to 80 track mode, as well as being able to read MSDOS discs in 40 track mode. There's a small switch on the back of the drive.

As with everything, there's a penalty to pay, as you may have difficulty transferring files from your PCW to another PC when using a 40/80 track drive with your PCW. This is due to the difference in head widths (see separate box).

The other main difference between the Box and Timatic drives is that the Timatic unit comes complete with its own power supply. As the drive is powered separately from the PCW, there is no extra drain on the micro's power supply. You obviously have to pay for the drive's power supply, though, and this is the main part of the extra cost of the Timatic unit.

Software

The Timatic file transfer program, which is included with the drive, is called TDOS and allows you to transfer files between MSDOS and CPM without worrying about the two formats. It won't allow you to format a PC disc on a PCW, though, which can cause problems with the supplied 40/80 track drive.

Uniface disc adaptor
£49.95 (plus cost of drive) • Silicon Systems • 061 848 8959

Hardware

This adaptor fits below the A: drive in the same space a second 3" drive would. It allows you to connect a 5.25" drive of your choice to use as the B: drive. It has the advantage of providing a secure mounting for the data socket which connects to the external drive. If you take this option, you'll need to buy a 5.25" drive with its own power supply, as there is no power outlet from the Uniface.

Software

At present, the software supplied with Uniface deals with formatting and copying files from Amstrad format discs. By the time you read this article, though, Silicon Systems should have an MSDOS file transfer utility available. They are also working on the Aface, which will allow you to connect a 5.25" in parallel with the internal A: drive. This will allow you to run an extra drive on a PCW8512, as well as the single drive PCW8256.

Fitting a second drive

Both the 5.25" drives are fitted to the PCW8256 in the same way. You first unplug the micro from the mains and remove the back of the monitor by unscrewing the four retaining screws which are recessed into the top and bottom of the case, and the two above and below the expansion connector. This is best done with the monitor laid flat on its front, on top of a blanket or towel.

There are a couple of cables on the left-hand side, inside the monitor (looking from the back) which run from the vertical circuit board holding the computer's main circuitry to the internal disc drive. Bound in with these cables are two extra ones, terminated in free-hanging sockets. It's these sockets which you attach to matching plugs on the end of cables from the drive.

The wide plug and socket carries the information from the micro to the drive, while the narrow one takes the power (on drives which don't contain their own power supply). On drives which have their own power supply, only the wide cable needs to be connected. You can feed the cables from the PCW out of the back of the case through the hole provided for the printer socket (the cables fit alongside the socket).

The Uniface adaptor is connected in the same way, but has to be physically attached through the front of the PCW case. You have to peel off the Amstrad facia from below the top drive and break or cut through the ribs which support the plastic panel which lies behind it. The adaptor then fits through the hole this leaves, and is secured with a tie-bar and screw.

The Timatic 5.25" external drive, with its own power supply

The Uniface disc drive adaptor, installed in a PCW8256

WHY PC?
It might be hard for the dedicated PCW user to concede, but the most popular micro in the world today is IBM's Personal Computer. This is therefore the most likely micro with which you would want to transfer data.

Leading To Results

If the cost of an extra disc drive sends shivers down your spine, there is a cheaper method of transferring files, albeit rather more difficult to arrange. All you will need is a cable, a serial interface (we reviewed several last month) and a fair amount of patience. It's not easy, but it does work for ASCII files, WordStar/NewWord files, but not LocoScript files (unless saved as ASCII). A little theory before we start...

There's no fool like an FDC

The way a micro records data from its memory onto a disc depends on the hardware it is equipped with and the software which makes up its Disc Operating System (DOS). Discs are normally controlled by a specialised chip called a Floppy Disc Controller (FDC) which responds to the commands received from the DOS and converts them into instructions for the various motors and solenoids within the disc drive.

The way the information is actually stored on the disc, and the placing of electronic 'markers' which are used to find particular parts of the data, depend on the way the FDC is instructed to work by part of the operating system. It's called the disc 'format', and in the case of the PCW it's a part of CP/M specially written by Amstrad.

It's a peculiar function of the microcomputer industry that each manufacturer thinks he has a better disc format than has ever been tried before. This egotism results in a multitude of different formats and almost total incompatibility between discs.

All is not lost, however, as with judicious application of spots of machine-code in the right places, the PCW's FDC can be persuaded to mimic the formats of other discs. The format we're particularly interested in is that of the IBM PC. Each of the programs reviewed here has to convince the PCW that it really can read from and write to discs other than its own.

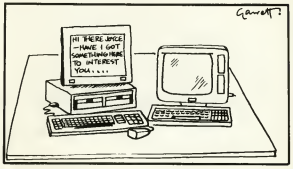
Filenames

The filenames in these instructions are filename.TRA for the file from which the data is being transmitted, and filename.REC for the file into which it is being received. You would, of course, replace these names with your actual filenames.

Shake hands and come out fighting

The idea behind file transfer through a cable is simple enough. You connect a cable with three leads between the two interested parties. You can then pass files, bit-by-bit, through two of the leads, using one for data flowing in one direction, and the other for data flowing back the other way. The third lead is used as an earth, much like that in a mains lead.

Most connecting cables have at least two other lines, however, to handle 'handshaking'. This is a technique whereby the receiving micro can say 'Hang on, I'm busy. I'll let you know when I'm available again', in case it's getting bogged down with too much data. These lines are often known as 'Request To Send (RTS)' and 'Clear To Send (CTS)'.



Hitting the buffers

The trouble is, although your beloved PCW has software which can set up the handshaking (the SETSIO utility on the CP/M disc) and transmit and receive files (PIP), many PCs have no such utilities. Since this article is intended to cover as wide a variety of different PCs as possible, including Amstrad's own PC1512, we're going to dispense with handshaking and rely instead on the size of memory available to both communicating micros.

Both PCWs and PCs are quite happy to receive a file into memory (known as 'buffering' it), and save it once it's completely transferred. This limits the size of file to available memory space, but few people will want to transmit files longer than 64K, anyway. It also limits the speed at which the data can be transferred.

So here's a complete guide to linking a PCW to a PC and transferring files between the two, with no software other than that supplied with the two machines.

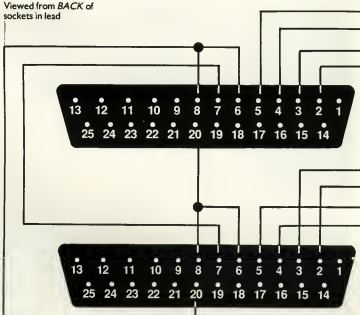
The Missing Link

Hardware

You will need the following equipment to connect the two micros:

A serial and parallel interface for the PCW
A 'null modem' lead (described below)
A serial interface card in your PC (some PCs have them fitted as standard)

► The wiring diagram of a 'null modem' cable



A 'null modem' lead is one with the send and receive lines crossed over so that the output from one micro goes to the input to the other, and vice versa. It's the opposite of the kind of lead you would need to connect a serial printer to your micro, so don't buy this type of lead by mistake. The term 'null modem' is a fairly widely used piece of jargon, and should be understood by most cable suppliers.

The other feature you need to check is that the lead is 'female to female'. The plugs on the end of a serial lead have twenty five connectors on them and a surround the shape of an elongated 'D'. If the connectors are pins, the plug is 'male' and if they're holes, it's 'female' – quaint, isn't it? The full specification is 'a female to female 25 pin D serial lead'. You should aim for a length of between one and two metres.

If you're a dab hand with a soldering iron, you could buy two female plugs and a length of 8 core cable and make up a lead. The connections are shown in the diagram.

Software

As mentioned before, the technique described here only requires SETSIO and PIP on the PCW and MODE and COPY on the PC. These programs are normally supplied with the two micros.

Setting up

Here's how to set up the two computers:

1 Move both micros so that they're close enough to connect with the serial lead.
2 Connect the lead to the serial sockets on the PCW and PC.
3 Load CP/M on the PCW from a copy of side 2 of your master disc.
4 Copy SETSIO and PIP onto the M: drive with the commands PIP M:=A:SETSIO.COM and M:=A:PIP.COM.
5 Set up the serial port on the PCW with the command M:SETSIO 1200 H OFF.
6 Load MSDOS on the PC.
7 Set up the serial port on the PC with the command MODE COM1:1200,,8

Don't be tempted to increase the speed of transfer (known as the baud rate) above 1200, as you're likely to start seeing errors appear in the received file.

PC ➧ PCW

To transmit files from the PC to the PCW:

1 Put the disc with the file you want to transmit into the PC.
2 Put a blank formatted disc into the top drive of the PCW.
3 Type M:PIP filename.REC=AUX:[E] on the PCW, and press [RETURN].
4 Type COPY filename.TRA AUX/A on the PC, and press [RETURN].
5 The file will be copied from PC to PCW, appearing on the PCW screen as it copies. Once the whole file has been transferred, the PC will save it to disc.

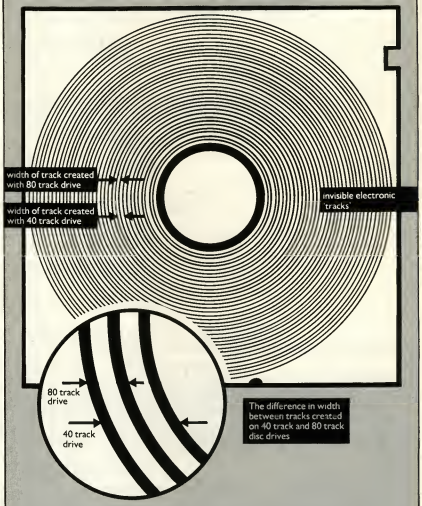
PCW ➧ PC

To transmit files from the PCW to the PC:

1 Put the disc with the file you want to transmit into the top drive of the PCW.
2 Put a blank formatted disc into the PC.
3 Type COPY AUX filename.REC on the PC, and press [RETURN].
4 Type M:PIP AUX:=filename.TRA,EOF:[E] on the PCW, and press [RETURN].
5 The file will be copied from PCW to PC, appearing on the PCW screen as it copies. Once the whole file has been transferred, the PC will save it to disc.

If you need to copy more than one file, repeat steps 3 and 4 with the new filenames.

40/80 Vision



If you're using a 40/80 track switchable 5.25" drive instead of the internal 3" drive on your PCW, you may come across a problem when transferring files to a PC. It's all to do with the width of the recording heads of 40 and 80 track drives. The explanation is necessarily quite technical, so you may need to re-read the following paragraphs a couple of times!

The head of an 80 track drive is half the width of a 40 track head, as it has to record twice as many tracks on the same size of disc. A 40/80 track switchable drive uses an 80 track head, but when switched to 40 track mode only records 40 tracks on the disc. It spaces the tracks at the same pitch as a 40 track drive, but each track is only half the width.

A 40/80 track drive, switched to 40 track mode, will quite happily read a disc which has been formatted on a 40 track drive, as it simply reads half the full width of the track. Similarly, a 40 track drive will read a disc formatted on a 40/80 track drive in 40 track mode, as long as the disc was completely blank before being formatted.

Where the trouble comes is with a disc formatted on a 40 track drive, which is then reformatted, or has files recorded in it using a 40/80 track drive. Because the 40/80 track drive only records on half the 40 track width, the other half of the old track still remains on the disc. When the disc is then returned to the 40 track drive, that drive's full width head will see half the track that it originally recorded and half the new track that was recorded on the 40/80 switchable drive. It won't be able to make any sense of the two recordings together.

The solution is to keep two discs for copying purposes, both formatted in MSDOS format, but one produced with the 40 track PC drive and the other with the 40/80 track PCW drive. Record all files going from PCW to PC on the 40/80 track disc and those going the other way on the 40 track disc. As long as the two are never mixed, you should have no problems. Only the Box formatting utilities allow you to format a disc in PC format on the PCW.

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CUT AND DRIED

Ben Taylor explains how LocoScript's Blocks and Phrases can ease the wear and tear on your fingers

Many people who use word processors for the first time treat them like glorified electric typewriters. The 'delete' keys are truly amazing to the newcomer, providing hours of fun wiping out typos and sharpening up ambiguous phrases. But word-processors have powers far beyond letter corrections. Whole chunks of text can be reproduced at a keystroke – or copied, moved and deleted.

History lesson

The [COPY], [CUT] and [PASTE] keys lie at the heart of the matter. 'Copy' is a fairly self-explanatory label for a key, but 'cut' and 'paste' might make you pause for thought. In days of yore, when word processors were a twinkle in Alan Sugar's eye, everything was typed out by hand onto paper by secretaries (some of whom may actually have been called Joyce). When the author got to read the draft of his document, he would go over it marking in corrections, some of which might involve a quite major replacement or reorganisation of paragraphs.

Rather than retyping the whole thing, the secretary would then get out the scissors and glue, physically cut out paragraphs to be corrected, type new versions up, and then paste the correct bits together onto a backing sheet for photocopying and distribution. So, to make the old-timers feel at home with word processors, the terminology is still the same – 'cut' means to remove a chunk of text, and 'paste' means to insert a chunk of text.

Getting back up to date, consider editing a document in LocoScript, in which you need to make some changes of this kind. Cutting is the simplest operation to do. Suppose you have an advertising mailshot letter with a paragraph in it specifically for existing customers. When sending it out to people who haven't bought from you before, you want to delete this paragraph.

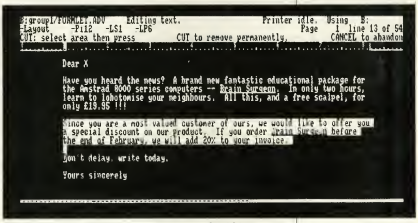
Open the document up for editing as normal, then put the cursor over the first character to be deleted. Press [CUT], and you will see some instructions on one of the lines at the top of the screen. Move the cursor until it is just past the last character to be deleted. You will see the intervening text being highlighted. Now press [CUT] again, and the text is deleted. You can press [CAN] at any time to cancel the operation and return you to the ordinary editing operations.

You can cut out any amount of text you like. For individual words, the delete keys are the fastest way, but to delete a line you will find it better to place the cursor at the start of the line in question, press [CUT], ↓, [CUT]. Alternatively, [CUT], [EOL], [CUT] deletes from your current position to the end of a line. To get rid of a whole paragraph, as in the example screen shot, get to the start of it then press [CUT], [PARA], [CUT].

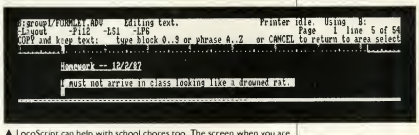
A moving experience

Deleting text is great fun, but not very constructive. To understand how LocoScript manages copying and moving chunks of text, you have to understand what 'Blocks' and 'Phrases' are.

When you were deleting the chunk of text previously, LocoScript marked the text in question in reverse video. Instead of deleting it, you could have stored it for future use. Blocks can be text of any length – single words, paragraphs or whole documents. Phrases, however, are kept for small bits of text, as the name suggests. LocoScript can store up to 10 blocks of text, numbered 0 to 9, and 26 phrases lettered A to Z.



▲ LocoScript's screen just as you are about to press [CUT] for the second time to delete the highlighted paragraph. Note the prompts on the third line of the screen.



▲ LocoScript can help with school chores too. The screen when you are about to copy text into a block ...

Blocks and phrases are both used with the [PASTE] key. When you are editing a document, if you press [PASTE] followed by 0 to 9 or A to Z, then the relevant block or phrase is inserted into the document at the cursor position.

So, the way to move or copy text is to use blocks –

Room to breathe

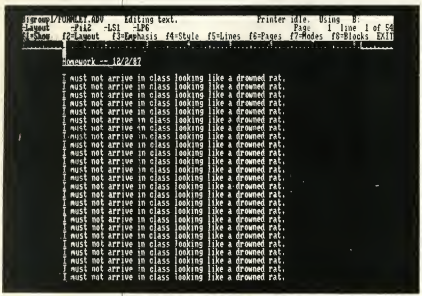
When you start LocoScript up, you will probably find that there are already a few useless phrases like 'central heating' set up, which are used in examples in the Amstrad manual. You may like to get rid of these to give yourself more room to define your own phrases, given the limits on total length mentioned before.

To delete phrase, you actually have to store a new phrase with nothing in it, and put it over the old one. So, to erase phrase A type [COPY][COPY]A (it doesn't matter where you are in the document), which defines a new phrase A with nothing in it.

You can find out which phrases are in use, so which letters are still spare for new ones, by pressing [f8] while you are editing. This brings up the blocks menu (press [CAN] to get rid of it) and lists the numbers and letters of the blocks and phrases that have something in them.

forget phrases just for now, since the limits on their length can be inconvenient. Press [COPY], move to the end of the chunk you want to copy, press [COPY] again and choose a number (0 to 9) to save the block by. As with deleting, one of the lines at the top of the screen gives you reminder prompts.

All this has done is to store the text in a block – suppose for argument's sake you chose 0 as the block number. The document itself has not changed at all, but



▲ Copying lines can be invaluable in your homework

you can now copy that text to another part of the document. Move the cursor to where the text is to be copied to, press [PASTE] and 0 (or whatever number you used for the block). Block 0 still contains the text, so you can do a [PASTE] 0 again, and the text will be recopied, again and again if you like.

The final refinement is *moving* a chunk of text. As when copying it, place the cursor at the start of the region to be moved and press [COPY]. Now move the cursor to the end of the region, and press [CUT], followed by your choice of block number. If you pick 0 again, you will lose the text you stored in block 0 previously. Now you see the text being deleted, but it is at the same time stored in the block, and can be inserted at the point it is being moved to with [PASTE] and the block number, as with copying.

To coin a phrase

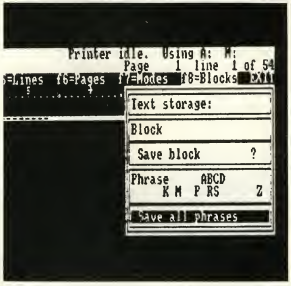
Phrases are like small blocks. A block can hold any amount of text, but you will find that the a phrase can't be longer than 255 characters. Also, the 26 phrases lettered A to Z can hold at most about 900 characters between them. This means you could store three phrases of 250 characters and one of 150, or 26 phrases of 30 characters each, and so on.

Phrases are defined and used in exactly the same way as blocks. If you regularly use the phrase 'price on application' in a document, you can save yourself typing it over and over again. Type it once, at its first occurrence in the document, then move the cursor back to the beginning of the phrase. Press [COPY], move to the end of the phrase, [COPY] again, and then choose a letter to store it by – 'P' might be sensible.

After this, wherever you are in the document, pressing [PASTE] then P will insert the words 'price on application' into your document.

So what's the difference between blocks and phrases, other than size? Well, once you finish editing a document, all the blocks that you may have set up are lost (although it is safe to choose 'Save and Continue' on the Exit menu, the blocks will be preserved). Phrases however are preserved. A phrase that you define in one document can be used in any other document, even if you change discs.

There is one very important thing to do if you want to be able to use your same phrases the next day, ie. after you turn the PCW off or reset it – you must save the phrases onto your LocoScript startup disc.



▲ The menu produced by pressing [f8] while editing a file. You have got text stored in blocks 0 and 5, and phrases A, B, C, D, K, M, P, R, S and Z.

To do this, while you are editing any document press [f8] for the blocks menu, and press [ENTER] over the 'Save all phrases' option. Nothing *appears* to happen, but in fact LocoScript has created a file called PHRASES.STD in group 0 of the M drive. Finish editing your file, and you will see it.

Now take your LocoScript startup disc and put that in the PCW. There is also a file in group 0 of that called PHRASES.STD. Erase this file (with the [f6] key), and move (with [f4]) the new PHRASES.STD from M into its place on the A disc.

From now on, whenever you start up the PCW with that disc, those phrases will be automatically available for you to use.

Copying text between files

Moving and copying text within a file is simple enough, but when you finish editing a file all the blocks you defined are lost. This means you can't copy paragraphs between two files by defining a block in one, closing the file down, opening the new one and pasting the same block number in.

Instead, you have to explicitly store the block to disc as a file with the 'f8=Blocks' menu while editing. For example, to copy a paragraph to another document, start editing the original document. Find the paragraph to be copied and store it in a block in the normal way – suppose you use block 0.

Now press [f8], and you will see the highlight bar over the 'Save block ?' option. Type 0, since it is block 0 you want to save, and [ENTER] twice. After a brief disc whirr, you are faced with the familiar disc management menu. You are now going to choose a place and name for a document to hold the contents of the block.

The prompt line at the top of the screen asks you to pick the group to be used – it makes sense to use the M drive for this, since it is only temporary storage. So move the cursor into the M drive group, press [ENTER], and choose a file name when the menu asks you to. Press [ENTER] again to do it, then [EXIT] takes you back to the edit.

Finish editing that file and open up the file into which the text is to be copied. Press [f7], and choose the 'Insert Text' option. Now you are in the Disc Manager screen again, so put the highlight bar over the file in M you just created, press [ENTER] and confirm. The text is copied into the new file, and you can carry on editing as normal.

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SPECIAL RELATIONS

Databases come and go, but Masterfile lives on. What does this latest incarnation have to offer?

Masterfile 8000 is the latest version of this relational filing system, and is written especially for the PCW. It takes full advantage of the micro's best features, including the enlarged screen display, graphic capability and RAM disc. The program is completely written in machine code, which means it's fast in operation, and builds on earlier versions of the program.It started life on the Sinclair Spectrum, and progressed through the Amstrad CPC range to where it stands today.

What you get

Masterfile comes in the ubiquitous black plastic folder, which contains a single disc and a 64 page manual. The documentation covers file creation and use, and includes sections on the theory of data files and relational links. It's quite clear, but a little sketchy in places and not written for the absolute beginner (but then, Masterfile is not for the novice, either). Overall, it provides a lot of information.

As well as the manual, extra information is provided in a number of data files on the disc. Once you've worked out how to load and display a file, you can use the files themselves to teach you more about the system. As well as providing some ready-made applications (record collections, customer files etc), these files include ample demonstration of the more advanced features of Masterfile. Even the index and glossary are provided as files, although some of the definitions seem a bit off-beam, viz 'Disc – A quoit thrown by ancient Greek athletes; any flat thin circular body or structure'.

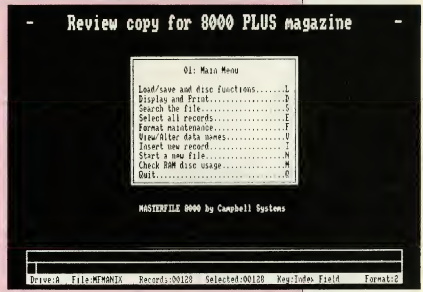
Masterfile face-lift

The most obvious difference between Masterfile 8000 and other databases on the PCW is the graphical content of the screen. Gone is the 'This is a database and shouldn't be fun' syndrome. With Masterfile you can draw little books to illustrate your book records, railway lines to run across your train-spotting records and doric columns to surround your classical record records. They're actually surprisingly easy to draw, as well. You can add lines, boxes and panels to the screen at almost any point.

These elaborations are not just gimmicks, but do help to highlight particular areas of of the record, and draw attention to specific fields of information.

Filing it down

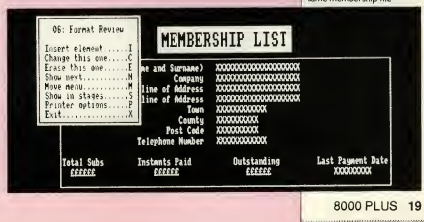
A Masterfile file is created in two main steps. The first is to specify the number and content of the fields themselves, and the second is to design a format for each record in the file. The second step is actually optional, as defining the fields sets up a basic display format, known as format 0. This format consists of all the field headings you've typed in and space next to each of them for the associated data.



▲ The Masterfile 8000 title screen

```
01;Name,.................(C)
02;Company,..............(C)
03;Address 1,............(C)
04;Address 2,............(C)
05;Town,.................(C)
06;County,...............(C)
07;Post Code,............(C)
08;Tel No,...............(C)
09;Total Subscription,...(N)
10;Installments Paid,....(N)
11;Amount Outstanding....(N)
12;Date of Last Payment,..(D)
```

◀ The field numbers, names and types of format 0 of a sample membership file



▼ Part way though the definition of format 1 in the same membership file

Jargon Buster
There are three main terms used when describing databases. If you think of a database as a computerised card index, they each have a physical equivalent.
A **file** is like the box in which you store all your cards.
A **record** is like a single card within a box.
A **field**, or **item**, is a single piece of information on the card, e.g. a name, telephone number or date.

To define a file, you first enter the number of different pieces of information (the number of fields) you want to put on each record. It's important to specify a large enough number, as once you've started to define your record you can't add extra fields. This is an odd restriction, as most databases allow you to add extra fields as long as there's no data in your file.

Once you've settled on the number of fields, you type a heading for each one, which may be up to 22 characters long, and specify whether the field is to contain a number, a date or simple alphabetical characters. If you don't want to bother with other formats, that's all you need do – you can start typing in your data.

You don't need to specify the length of each field, as Masterfile 8000 uses variable length records. This means that each record that is saved on disc is only the length of the data that it contains (plus a few extra bytes which the program uses to locate it). Most databases use fixed length records, which nearly always take up more room on disc, but are easier for the program to alter or delete.

```
SALES CONTACT DIARY

This example demonstrates how you can use MASTERFILE 8000 to organise your sales
work. The Primary file, keyed on Date of last contact, references two Secondary
files. One contains a list of Customer Details, and the other a list of Products.

Formats 1 and 2 are essentially different presentations of same information.

See Format 6 for a pictorial view of how the relational files are accessible in
this particular case.

Note, on the Customer File, the use made of the 'Surname Shuffle' facility.
Also, look at the Description in the Products File, and note the use of the
underscore to assist with the layout of Format 1.
```

▲ A format screen used solely for displaying a description of one of the sample files

```
SALES CALLS LIST

Date of Call   Customer                    Product Description        Next Contact Date

01 Jan 87      Mr C Cashful                85 Range Rover Vogue
               'Chevenings'                5-speed,met
               Castle Road Cherkeny        Derwent,Extras,14000
               CU15 2GE
               Tel:      0405 33333                  £14,995

01 Jan 87      Mr I Guggenheim             65 AC Cobra MkIII 289
               Gage Castle                 Dark Blue,LHD,Last ever
               Leeds Kent                  produced
               SR2 4JR
               Tel:      0344 70023                  £49,995
```

▲ One format from a car sales database. Note that two records are displayed at once

```
CALLS MADE AND FUTURE APPOINTMENTS

Last Call   Customer Name & Tel          Product Description & Price        Next Call

01 Jan 87   Mr C Cashful                 85 Range Rover Vogue 5-speed,met De 28 Jan 87
                 0405 33333              £14,995

01 Jan 87   Mr I Guggenheim              65 AC Cobra MkIII 289 Dark Blue,LHD 14 Jan 87
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                 0345 00023              £100,000

02 Jan 87   Sir L Lochinvar               85 BMW M635 Red,Sports Seats,Air Co 01 Apr 87
                 ---                     £29,995

03 Jan 87   Mr J Kierkegard               86 Ferrari Testarossa Black,Black H 15 Jan 87
                 01 588 7861             £79,995
```

▲ A different view of the same information. Here six records are displayed at a time

Drawing the line

If you want to make more of the visual display of your records, though, you can define up to nine other formats. These are effectively screen layouts which may contain some or all of the fields you defined in the base format, 0.

```
This... shows graphically MASTERFILE's handling of relational files to
        produce the Format 1 report. It also demonstrates the range of
        flashing effects which you can use to enhance presentation....

File: ARCONCIC Data Names:
01: Customer Name
02: Customer Name
03: Customer Address
04: Postal Town Code
05: Post Code
06: Telephone Number

File: ARCONCIC Data Names:
01: Date
02: Customer Key
03: Notes
04: Product Contact Date
05: Product Key

File: ARCONCIP Data Names:
01: Product Key
02: Description
03: Price (£)

All... these fields can be displayed in your reports using ARCONCIC as the
       Primary file.
```

▲ This format explains how three files are related together.

You can specify the position of each field, give it a different title from that in the base format, and mark out a display area for the data it will contain.

Each of these functions is controlled from a series of menus which appear on the screen. Although this system guides you through quite a maze of different facilities, it takes a while to get used to the techniques involved, and the menus do tend to get in the way.

When you're adding headings to your layout, it's a little disconcerting to discover that the cursor used for positioning them wipes out anything it passes over. This is rectified when the screen is redrawn at the end of each new addition, but if you're lining up a series of headings you have to be careful not to wipe out others by mistake.

One of the powerful features of Masterfile is that the program will automatically assess the depth of the layout you produce, and display more than one record on the screen at once, if it can. In the extreme, you can have up to 28 records on the screen at once, assuming each takes up only one line of the display.

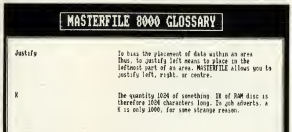
Working from memory

Unlike many databases, Masterfile 8000 loads the file you're working from into the memory drive before starting. This speeds up many of the programs functions, but does mean you have to remember to save your file back to disc before switching off. Masterfile reminds you to do this, but if you're the victim of a power-cut, you can lose a lot more than the last record you changed.

The other disadvantage is that you're limited to the space on the M: drive, rather than the larger capacity of the A: of B: drives. To take a typical example, suppose you define a membership list, as in the illustration. There are 12 fields in the record, and you might expect the following average lengths for each:

Name	12
Company	16
Address 1	20
Address 2	20
Town	8
County	8
Post Code	10
Tel No.	10
Total Subs	5
Inst Paid	5
Outstanding	5
Last Paymnt	3

If you allow an overhead per record of 8 bytes, plus one byte extra for each field (as suggested in the manual), this gives you a record length of 142 bytes. You should allow 2K for formats and other overheads on the disc drive, so you could expect to store 110x1K/142=793 records of this length on an unexpanded PCW8256, and 366x1K/142=2639 records on a PCW8512. If Masterfile worked with the 3" drives, though, you could have stored 1283 on the A: drive and 5177 on the B: drive.



▲ A page from the Glossary file

File features

When you come to use your Masterfile database, you display one of the formats you've created and start typing your information into the data fields. Character and number fields accept data in any form, but date fields do some elementary checking. As long as the month isn't more than 31 days long, though, it'll probably get through. There are no calculation facilities in Masterfile, other than a simple totalling, so numbers aren't checked for size or form.

When you have entered a few records, you'll probably want to browse through them. You can move forward record by record, and return to the start of the file, but

▲ A typical record display in format 0 of a membership file

oddly you can't move backwards through a file. Records are normally displayed in the order of the field you defined as a key when you set the file up, but you can temporarily define an alternative key so that they will appear in another order.

The main facilities within Masterfile are 'Find' and 'Search'. Find allows you to specify a search word in the key field, and Masterfile then hunts through the records until it finds a match.

Search is rather more complex, as it allows a 'rule' to be set up, which may contain several conditions referring to a number of fields. You could, for instance, define a rule which said 'Name is Johnson, Town is Margate and Total Subs is less than £100'. All records which match that rule would then be 'selected', and only these would be displayed, until you selected the whole file again.

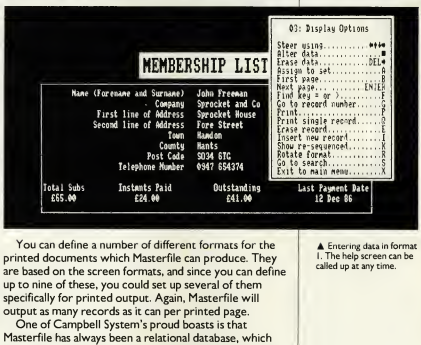
Relational files

Imagine you are running a database to hold a file of books supplied by the Marmoset Fanciers Book Club you run. Each record in the file might contain the book's title, its author, its publisher, marmosets covered by the book, the date of publication and the price.

Another file contains details of customers. Each has a name and address, and details of the books that have been supplied to them. One of the uses of this second file is to prepare invoices. To do this, an essential piece of information is the price of each book. You could hold these prices on each record of this file, but it would save space on the disc to be able to read them directly from the other one. It would also mean that you only have to enter the prices once.

A relational database, such as Masterfile 8000, can do just this. By making the title the 'key' field (the one on which it's indexed) in the book file, Masterfile could extract any of the information in that file whilst working on the customer file. None of the book details can be altered, but they can be viewed and printed out just as if they were part of the customer file itself.

Masterfile 8000 can link up to eight files together in this way.



▲ Entering data in format 1. The help screen can be called up at any time.

You can define a number of different formats for the printed documents which Masterfile can produce. They are based on the screen formats, and since you can define up to nine of these, you could set up several of them specifically for printed output. Again, Masterfile will output as many records as it can per printed page.

One of Campbell System's proud boasts is that Masterfile has always been a relational database, which means it can refer to data in more than one file at once, and these files can be linked by the use of common fields. This relational facility saves disc space and entry time. It won't always be of immediate use, but it's nice to know it's there if you need it.

Verdict

Masterfile 8000 shows its sound ancestry, being from a series of good, value for money databases. It is quick and very versatile, has plenty of scope for flexible screen and print layouts, and has good selection and sorting facilities. It's a pity there's no mathematics, though.

It works fast by dealing exclusively with the PCW's RAM drive, but this does limit its capacity. If your application is large, and you own a PCW8256, you may have to think of upgrading its memory before installing Masterfile. EXIT

PLUSES

- ⊞ Works fast
- ⊞ Wide range of layout options
- ⊞ Handles 'relational' files
- ⊞ Plenty of good example files

MINUSES

- ⊟ Capacity limited by size of M: drive
- ⊟ No calculation facilities
- ⊟ Takes a while to learn all its features

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PRINTER POWER

A simple program allows LocoScript to print files directly to daisywheel printers

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Many people have expressed their frustration at the poor quality of the PCW's printout. Although good enough for many purposes, the standard printer will never look as though it were the work of an electric typewriter.

Daisywheel printers, on the other hand, *can* produce printout which is of typewriter standard. But there is a catch – the LocoScript wordprocessor cannot print files out on any printer other than the standard one, so even if you buy a swish daisywheel printer, you can't get LocoScript to use it.

This problem has caused some people to give up using LocoScript and defect to CP/M wordprocessors like WordStar or Protext, which can print to daisywheels. The fabled LocoScript-2, due to be on sale in March, will allow LocoScript users too to use a choice of printers, but until then what do LocoFans do? They buy Loco-Print from Anglo Computers.

Don't mention CP/M

Loco-Print is a program that you run once only on your LocoScript startup disc, which makes a permanent modification to the disc to alter the way the 'Print' command works. From then on, every time you start LocoScript using this modified disc, all files you print will be sent to your daisywheel printer rather than the standard printer.

Not all printers work the same way, so you have to tell Loco-Print which type of printer you are using. At the moment, the choices are either Qume or Diablo printer codes, which covers most of the models on the market – Brother and Juki printers are more or less the same as Diablo. Loco-Print only works with daisywheel printers, and assumes you have your printer plugged into your parallel (Centronics) adaptor on the PCW.

If you are using a special print wheel in the printer (for example with foreign characters) you can also tell Loco-Print about that.

So to the important question: how well can Loco-Print print LocoScript documents, with all their layout changes, underlining, justification and so on? The printer we used for the review was a Juki 6100, which is like a Diablo in most respects. With the version of Loco-Print provided for our review, all the pitch changes worked, although being a daisywheel printer 'pitch' means character spacing, not character size. For technical reasons, 15 and 17 pitch text seemed to always comes out in bold if you print in 'high quality' mode: using 'draft' gives better results!

```
A  line  of  text  in  10D  pitch
   A  line  of  text  in  12D  pitch
      A line of text in 15D pitch
         A line of text in 17D pitch
            A line of text in 10 pitch
               A line of text in 12 pitch
                  A line of text in 15 pitch
                     A line of text in 17 pitch

                     This line is in bold

                     This line is underlined

   The quick brown fox jumps over the lazy dog, and
   beans Harvey Smith into second place to win the
   world dog-jumping championships for the seventeenth
   year running.
```

Underlining and centring worked, and emboldening did work but appeared to be treated as double strike. Superscripts and subscripts didn't seem to be implemented. The different line spacings all worked, and text could be right-justified. Proportional spacing occasionally confused Loco-Print: you are safe to use proportional spacing in blocks of text with ragged right margins, but if you try to justify to the right, or centre it, the spacing goes a little awry.

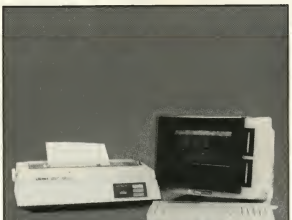
Until LocoScript-2 comes along, Loco-Print is the only real way for daisywheel owners to connect up to LocoScript. If you've invested £300 or more in a printer, an extra £39 or so doesn't seem much to give LocoScript the benefit of its quality. For producing professional-looking simple text documents, Loco-Print is a valuable tool.

The hardware choice

Shelling out the cash for Loco-Print is the cheapest thing you need to do to get daisywheel print from LocoScript. Naturally, the printer itself will set you back rather more – from £200 upwards. Generally speaking, the more you pay, the faster you can expect the printer to work. When buying a printer, make sure it is Diablo or Qume compatible, as most models are.

In addition to all this you will need to buy a parallel interface for your PCW, such as Amstrad's own CPS8256 unit. This will cost around £50. A selection of printers and interfaces were reviewed in last month's 8000 Plus. The printer and interface you buy now will still be used if you choose to buy LocoScript-2 when it comes out, so it will be money well spent.

As a postscript, some electric typewriters have a computer interface option, so that they can be used as printers. In general, as long as they are either Qume or Diablo compatible, you can send LocoScript files to them with Loco-Print.



Printer types
Although there are many different printer manufacturers, most of the models conform to one or two standards of behaviour so that they are interchangeable. To say that a printer is a 'Diablo printer' usually means it uses the Diablo standard control codes, not that it was actually made by Diablo.

PLUSES
- Can obey most of the main LocoScript layout codes
- Once set up, uses the normal LocoScript print command
- Can use most of the leading makes of daisywheel printers

MINUSES
- Only works on LocoScript version 1.2 (not LocoMail or LocoSpell)
- Doesn't handle proportional spacing very well
- You have to reset the PCW to be able to use the standard printer again

RANGE OF FEATURES	■■■□□	PERFORMANCE	■■■■□
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GRAPHIC DETAILS

From drawing straight lines to building mouse-driven menus, GOS gives programmers power over the PCW's screen

GRAPHICS OPERATING SYSTEM
£69.95 ● Mirrorsoft ● 01-377 4645

For some time now Mirrorsoft have been hard at work producing a desktop publishing package called Fleet Street Editor Plus. This sophisticated system will allow you to take wordprocessed text, mix it with graphics, and lay it all out in magazine style on your PCW screen before printing it. One of the problems facing programmers who try to write such systems is how to display everything on the PCW's screen, which after all was only ever intended to run LocoScript.

Mirrorsofc's programmers devised an elaborate library of subroutines to do all the hard work for them, and it is this library which is now being sold as the Graphics Operating System, a programmers' toolkit for the PCW.

Who needs GOS?

The Graphics Operating System (GOS to its friends) is unequivocally aimed at programmers. It is very simply a set of ready-written subroutines which allow you to draw shapes on the screen and manipulate them afterwards, and which can be called up from any point in your own program.

The GOS routines themselves are written in machine code, and can be accessed from almost any programming language – BASIC, Pascal and machine code are the three examples cited in the manual, but any language which allows you directly access the PCW's memory will do.

At first glance, GOS seems to be highly priced. Under the pressure of further glances, the price resolutely refuses to budge, and herein is a Mirrorsoft policy. The price effectively includes a 'run time licence', which means that should you write a program which uses GOS, you are free to sell your program together with the necessary GOS routines without fear of Mirrorsoft jumping on you for breach of copyright of their software.

However, it will only be a tiny minority of PCW owners who need this run time licence (ie. commercial programmers), and it seems to be an unusual practice to ask programming hobbyists to subsidise business users.

The power at your fingers

GOS provides an impressive range of graphics functions for your delectation. All the simple ones are there, like drawing lines and boxes, and at the other end of the scale GOS allows you to control a mouse and print LocoScript-style menus out on the screen, all with a few lines of program.

Here's a brief catalogue of its power: you can plot points, draw lines, boxes, circles and ellipses. You can fill enclosed areas with a pattern, and remove the fill if it goes wrong. You can move, copy, stretch, rotate, reflect and erase selected areas of the screen, and you can save and load screens to disc for later use. You can put a menu up on the screen, find out where a mouse is currently pointing to, and restore the area that was beneath the menu when you have finished. Finally you can put text on the screen in a choice of five fonts, and control the line thicknesses as you draw.

The hows and wherefores of using all these routines are contained in a lengthy manual, which confirms GOS's programmers-only status. A demonstration program is supplied, showing off GOS's functions, and the manual lists the programming behind this in BASIC, Pascal and Z80 assembler. Readers are expected to learn how to use the routines by studying and adapting these listings, whereas a few more worked examples and explanations would have helped. The bulk of the manual is a reference section detailing all the individual routines, which is admirably clear and concise, once you have understood the basic *modus operandi*.

A few features spring to mind which are not available from GOS: you can't put standard PCW text on the

```
G. O. S's Typefaces:  'Westend'

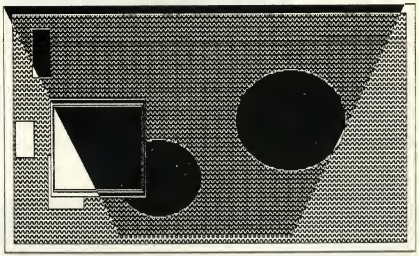
G. O. S's Typefaces:  'Sanserif'

G. O. S's Typefaces:  'Serif'

G. O. S's Typefaces:  'Oldstyle'

G. O. S's Typefaces:  'Modern'
```

The five typefaces GOS provides, which can be varied in size



A sample screen dump from the GOS demonstration

High/low pairs
Numbers less than 256 can be held in a single byte. Numbers less than 65536 need two bytes, the 'high' byte being the number divided by 256, and the 'low' byte the remainder from the division. Thus 600, being 2x256 + 88, is the pair (2,88).

Sprites and things
If you are trying to write animated graphics games on any computer, you will find 'sprites' very useful. A sprite is a custom-designed graphics pattern, like a Space Invader, which can be moved about the screen very efficiently like a single text character. GOS doesn't support sprites as such, although you can move rectangular areas of the screen around.

The competition

On the lines of graphics utility programs, there are two existing competitors to GOS. In theory, you could also use the free GSX software which comes on your PCW discs, but in practice it is very hard to find any cheap documentation anywhere, and it's very hard to use anyway.

CP Software's 'All about graphics and everything on the PCW' (that's a short version of the title!) works in almost exactly the same way as GOS – PEEKs and POKEs from languages like BASIC. *All about*, at £19.95, is aimed more towards the games programmer, with some impressive scrolling functions and sprite-handling functions. It doesn't cater for any mouse handling, nor does it provide GOS's area stretching functions. Real hackers will be pleased that CP actually give you the assembler source code for the routines, so you can modify and re-use it in your own code.

Secondly, there is ExBasic from Nabitchi, costing £11.45. This is actually a modification to BASIC's PRINT statement – it won't work with Pascal or anything else. There are no nasty PEEKs and POKEs to do, and it is aimed at the novice programmer rather than the expert programmer. ExBasic runs far more slowly that GOS or *All about*, and is not fast enough for you to write games with.

CP Software can be contacted at 099382 3463, and Nabitchi at 051-708 0123/8775 if you are interested. More details of both are in this month's Good Software File at the back of the magazine.

Printing a box with clipped corners

```
100 MEMORY 49149!
110 gos=49155!
120 DEF USR=49152!
130 REM
140 REM Clear the screen ...
150 POKE gos,82:z=USR(0)
160 REM
170 REM A box with corners ...
180 POKE gos,59
190 POKE gos+2,200:POKE gos+3,0
200 POKE gos+4,75
210 POKE gos+5,0:POKE gos+6,2
220 POKE gos+7,150
230 POKE gos+9,255
240 z=USR(0)
```

necessary initialisations for GOS to work

clear the screen first of all

function 59 draw a box

top left is x=200, y=75

bottom right is x=512, y=150

tells GOS to clip the rectangle's corners

do it!

... and the result on the screen

screen, but only one of the specially designed fonts. GOS is not designed with animated graphics (games programming) in mind, so scrolling the screen and manipulating 'sprites' is not particularly efficient.

Operating the system

Since most PCW owners would be thinking of using Mallard BASIC to run GOS from, the examples chosen will be in BASIC. Don't forget that any computer language can be used to call GOS as long as it gives you direct access to the PCW's memory, ie. it has an equivalent of BASIC's PEEK, POKE and USR commands.

When you first run BASIC, you have to tell it that the GOS routines are available: you do this by the command (from CP/M's A> prompt) `LINK BASIC`, which links GOS into BASIC and drops you into the 'Ok' prompt. You will notice that with GOS loaded, you only have 17k of workspace left for your own programs, which is a drag. You have to have the whole set of GOS routines loaded, you can't just pick the few you might want to use.

GOS functions all have a code number, between 0 and 100 or so. Once you have set up the USR command as the manual tells you, you POKE the function number into a specific location, POKE the parameters for the command into the correct area of memory (eg. the coordinates for the drawing you want to do) and then run the function with a USR command.

For example, clearing the screen is function number 82, and it doesn't need any data inputs to do its job. So, POKE the special byte (in fact address 49155) with 82, and give the command `Z=USR(Ø)` which calls the actual machine code routine. Z is a dummy variable that you don't care about.

More complex is the matter of actually drawing things on the screen. The PCW screen has 720 dots across it and 256 down. Unfortunately, this means you have to store the screen x-coordinate in two bytes, as a high/low pair. The y-coordinate can be contained in a single byte, but some GOS functions expect it as a high/low pair too (with the high byte being zero, of course), which can mean you doing 10 or more POKEs before you can call a function. Look at the example listing to see how BASIC and GOS together draw a box with clipped corners.

To programmers, one of the best things about GOS is the consistent design of the calling interface. Once you have understood a simple example or two, you can use just about any of GOS's features by looking at the reference manual. The most complex thing is understanding how the screen coordinate system works, and how to split a number greater than 255 into a high/low pair.

If anything goes wrong inside GOS – for example, you might have given an impossible set of coordinates to the routine – it returns an error code in a specific memory location so that your program could make some appropriate report to the user.

GOSh, wow?

Without doubt GOS provides a well designed set of graphics routines. With the exception of the 'fill' command, they are all quite fast, and the mouse and menu commands really give you the ability to write quite sophisticated interfaces into your own programs. The manual is slightly unfriendly, but since the package will only be used by expert programmers it contains quite enough information.

However, the ordinary drawing functions are covered quite adequately in both *ExBasic* from Nabitchi and *All about Graphics* ... from CP Software, at a fraction of the price. If you want to write your own mouse and menu operated art package, GOS is a powerful ally – if you want to draw circles, it looks to be a pricey option. EXIT

PLUSES

- Good range of general purpose graphics functions
- Routines can be called from most programming languages
- Routines to drive mice and menus are provided
- 'Fill' command can be reversed
- Consistently designed and documented calling mechanisms

MINUSES

- Manual is weak on tutorial content
- Only leaves you with 17k of BASIC workspace
- 'Fill' command is slow
- Lots of PEEKs and POKEs make it longwinded
- Priced for company programmers, not home users

RANGE OF FEATURES	■■■□□	PERFORMANCE	■■■■□
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COMPUTER DATING

Continuing his look through CP/M's hidden depths, Ben Taylor helps the fastidious and forgetful to keep track of their files

If you regularly cram your discs chock full of files, it can be a little difficult to work out exactly which file you want when faced with a screen full of a directory listing. All this is despite your having carefully chosen crystal clear file names like 'FRED', 'TEMP' and 'FDKMJNBC.SDG'. CP/M has several little-known utilities which are designed to help you pack more meaning into your disc directories.

Time please, ladies and gentlemen

CP/M allows you to mark all the files on your work discs with the time at which they were created. This may not sound immediately useful, but there are at least two advantages which spring to mind.

First, if you have been working on a letter, for example, of which you have stored several different drafts on your disc, then you can immediately see which is the most recent draft by looking at the creation dates of the files. Second, if your disc gets full and you need to create some space, you can see from the directory listing which files are the oldest and transfer them to an archive disc.

Before you read on, use PIP to transfer the following files onto your CP/M work disc – like all good recipes, the list of ingredients comes first in this article. The files are on sides 2 and 3 of the pair of master discs that come with the PCW:

DIR.COM	(side 2)
INITDIR.COM	(side 3)
SET.COM	(side 2)
DATE.COM	(side 3)

The first thing to do is to set up the system clock to tell the correct time. Not many people know that the PCW has a clock built into it, and fewer still know how to use it – but now you are about to be admitted to the ranks of the elite.

So, making sure you have your disc with DATE.COM in the current disc drive, type `DATE` (and press [RETURN] of course). You will be told, with the computer's unerring accuracy, that it is some time in the small hours of 1982. This is because when the PCW starts up from scratch, it has no idea what the real date and time are, so the clock takes on an arbitrary value. This value, although arbitrary, is not random and will be the same every time you start your PCW up.

The DATE command has several options, the most important of which is naturally the command to set the clock. Type `DATE SET`, press [RETURN] and you will be prompted to enter the date and time. The time won't actually be set until you press a key later on, so pick a time a few seconds ahead of the present.

The date is, inevitably, in American format – month, day, year rather than day, month, year. So, in answer to the question 'Enter today's date (MM/DD/YY):' type (for example) `02/12/87` for the 12th of February 1987. Press [RETURN], and now you are asked for the time. If it is 11:10 and 15 seconds, type `11:15:30`, to give yourself a few seconds breathing space. Press [RETURN] and you are faced with 'Press any key to set time', so on the stroke of 11:15 and 30 seconds, press a key.

You now have a correct clock, although it won't be up to Seiko accuracy. Every time you type `DATE`, you will get the correct date and time back. If you like, you can type `DATE C`, which displays the clock continuously on the screen until you press another key when it stops. This means you could even strap the PCW to your wrist and use it as a watch, although with a short mains lead you won't be able to walk very far.

Whenever you turn the PCW off or reset it, the clock will go back to 1982.

```
CP/M Plus  Amstrad Consumer Electronics plc

v 1.4, 61K TPA, 2 disc drives, SID/Centronics add-on, 360K drive M:

A)date
Wed 12/15/82 00:00:11
A)date set

Enter today's date (MM/DD/YY): 02/12/87
Enter the time (HH:MM:SS):     11:10:30
Press any key to set time

A)date
Thu 02/12/87 11:10:34
A)
```

▲ Showing the date, then resetting it

Time stamping files

Using DATE to tell you the time is a cute novelty, but not really all that useful in itself. However, you can now

Creation vs. Update

In theory, you would expect the 'update' time of a file to be altered when you edit a file, while the 'create' time is unchanged. In practice, when you edit a file called, say, FRED.ABC, the word processor will rename the old file to be called FRED.BAK, and create a brand new file called FRED.ABC. Therefore the .BAK file will have the same time stamps as the old FRED.ABC, and FRED.ABC has a whole new set of time stamps.

At the third stroke ...

One problem with time stamping is that the clock is never right when you start the PCW up. If you don't set the clock with the DATE SET command, your disc will get full of files which purport to date from 1982, some four years before you bought your PCW!

The way around this is to have a file called PROFILE.SUB on your CP/M startup disc containing the command `DATE SET`. Now, assuming you also have the file SUBMIT.COM on the startup disc, whenever your PCW starts you will be automatically prompted to enter the time, and the clock will then be set up for you so you can't forget.

```
A>initdir a:

INITDIR WILL ACTIVATE TIME STAMPS FOR SPECIFIED DRIVE.
Do you want to re-format the directory on drive: A  (Y/N)? .y

A>set [access=on, update=on]

Label for drive A:

Directory        Passwds  Stamp   Stamp   Stamp
Label            Reqd     Create  Access  Update
------------     -------  ------  ------  ------
A:LABEL   .        off     off     on      on

A>
```

▲ Setting up a disc for time stamping

Attention LocoUsers!

You ought to avoid storing LocoScript files and CP/M files on the same disc if you want to use time-stamps on the CP/M directory. LocoScript versions 1.2 onwards will ignore the time stamps, although may inadvertently alter them. If you are still using LocoScript version 1.0, it will actually go wrong.

go ahead and mark your files with the time you created them. This is called 'time stamping'.

Take your work disc with INITDIR.COM, SET.COM and DIR.COM on it and type `INITDIR A:` (assuming it is in drive A). This will alter the disc in drive A to allow CP/M's time stamping to work. On an 8512 you could equally type `INITDIR B:` to treat a double density disc the same way in drive B. INITDIR asks you to confirm the command, so type Y and [RETURN]. Don't worry if there are already files on the disc, it won't do anything unspeakable like erasing them.

Now you have to tell CP/M to start time stamping things. There are three options on this front: mark files with the time they were created, or the time they were last updated (ie. altered), or the time they were last accessed (ie. altered or just looked at). You can combine any two of these options within certain limits: you can record the times of creation and most recent update, or most recent update and most recent access, but you can't record the creation time and most recent access time. Don't ask why. Recording update and access is the most useful combination.

So, having done your INITDIR on the disc, type `SET [UPDATE=ON,ACCESS=ON]`. From now on, all files you create will be time stamped (although existing files will not be given retrospective time stamps, not unreasonably). If you do a `SET [CREATE=ON]`, then the creation times will be recorded in place of access times – you can't have the two together, as explained.

Now use your work disc and create some new files on it. If you do a `DIR [FULL]` on your disc, you will see the times listed out. From now on, all files created on that disc will be stamped with their times for your reference. The business of time stamping files only works with discs you have correctly initialised with INITDIR and SET, so you must do this for *every* disc you want to use, or CP/M won't record their times. You must also remember to set the correct time whenever you start up your PCW.

Try an experiment: do a DIR [FULL], and note the time recorded for the last access of DIR.COM. Wait for a minute to allow the clock to change, and then do a DIR [FULL] again. You will see that the time for the last access of DIR.COM has changed. This is because the file DIR.COM is itself accessed by CP/M in order to produce a full directory listing.

So after all this, you can tell from access times on the directory listing which files you haven't even looked at for the last six months, and so work out which ones you can safely move to an archive disc to give you more workspace. One unfortunate side effect of the date stamping is that it reduces by a quarter the number of files you are allowed to hold on a disc. You can only hold 48 files, not 64, on an A: disc with time stamps.

Real Time Clocks

There are now two units on the market called 'Real Time Clocks'; one from DK'Tronics and the other from SCA (see the review in this issue). These are boxes which slot onto the back of the PCW and contain a clock powered by a battery.

A specially provided program sets up the clock, much as DATE sets the CP/M clock up, the difference being that when you turn the PCW power off the battery keeps the clock going. Next time you turn on the PCW, a simple command which can be included in your PROFILE.SUB file transfers the stored time from the Real Time Clock into the CP/M clock. Your directory time-stamping will now work properly every time, without you needing to tell the PCW what the time is.

A disc directory showing time stamps – seconds are not shown ▼

```
A>dir [full]

Scanning Directory...

Sorting  Directory...

Directory For Drive A:  User  0

    Name      Bytes   Recs   Attributes   Prot      Update          Access
-----------  ------  ------  -----------  ------  -------------  -------------

CPM      BOS   11k     83 Dir RW           None    02/12/87 11:20  02/12/87 11:20
DIR      COM   15k    114 Dir RW           None    02/12/87 11:20  02/12/87 11:45
LOCSCRIP BOS   11k     84 Dir RW           None    02/12/87 11:20  02/12/87 11:20
TEXTNET  BOS    7k     51 Dir RW           None    02/12/87 11:20  02/12/87 11:20
TIPOFFS  BOS   17k    136 Dir RW           None    02/12/87 11:20  02/12/87 11:20

Total Bytes     =    61k  Total Records =    468  Files Found =    5
Total 1k Blocks =     61   Used/Max Dir Entries For Drive A:   10/  64

A>
```

The update time is when the file was created or last modified

The access time is when you most recently looked at the file

A footnote

On the subject of working out which files you have used most recently, and making backups of your work disc, the much maligned PIP utility has something to offer.

Naturally, all readers of 8000 Plus make regular backups of their work discs for safety. Ideally, you should do this at the end of each day, but backing up (or 'archiving') a whole disc with DISCKIT can be tedious if you've only changed a couple of files.

Instead, learn to use PIP for backups. If you have your work disc in drive B, and you type `PIP A:=B:*.*[A]`, then all files which have not previously been backed up will be copied to the A drive. The [A] stands for 'archive'. The first time you do this, all files will be transferred. But try the command again, and no files at all will be transferred. All the files on the disc have been tagged with an 'archive tag' by PIP. If you alter a file, or create a new file, that file's tag is then unset so that PIP knows it hasn't copied it.

If at the end of each day you back up your work disc with with the PIP A:=B:*.*[A] command, then only the files you have actually altered since your last backup are copied.

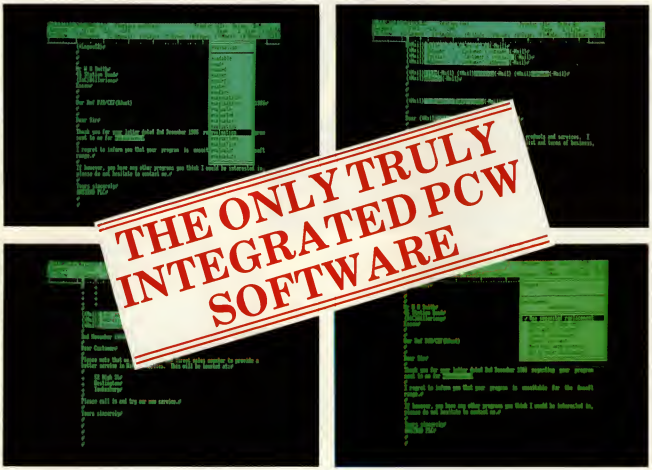
PIP A:=B:*.* without the [A] suffix will still transfer all the files regardless of which have been backed up. If, for some obscure reason, you want to artificially set or unset the 'has been backed up' tag of a file, the SET utility can do this. `SET FRED.ABC [ARCHIVE=ON]` sets the tag of FRED.ABC, and `SET FRED.ABC [ARCHIVE=OFF]` unsets the tag

EXIT

Even Better Word Processing

LOCOSPELL (Soft 07070)

LOCOMAIL (Soft 07069)



A powerful addition to your PCW enabling you to merge address lists and data with letters and forms to produce mailshots and personalised versions of standard letters. The many features of this software include, the ability to perform arithmetic functions.

The only official spellchecker to use with Locoscript. This software is supplied with a 32,000 word dictionary for use with the PCW8256 and a massive 77,000 word dictionary which operates with speed on the PCW8512. You can produce and edit your own dictionary which operates in conjunction with the main dictionary.

Software for the PCW8256/8512

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8+/3

BUILDING ON A PCW

Caroline Cunliffe uses her micro to do a builder's books, prepare estimates and write Case in Point articles. Which is the most useful?

Running a small business is akin to working as a circus juggler. I know, because I'm married to one (a builder that is, not an employee of Billy Smarts). The demands of our business are like so many spinning plates, and it requires a surefooted operator with incredible sleight of hand, not to mention nerves of steel, to keep them all in the air at the same time.

Review check
We reviewed the Sagesoft personal accounts package, together with three other packages, in the first issue of 8000 Plus.

Bogged Down

What with work in progress at three or four different addresses simultaneously and clients who are invariable separated from each other and the local Builders' Merchants by a section of the Kingston ring road currently under construction, to travel one mile and back can take up most of a morning.

Add to that the vagaries of the climate in the north west corner of Surrey, where heaviest precipitation occurs at times of trench digging and re-roofing, irrespective of the season, and you will appreciate that a builder's lot is not a restful one.

The job's not finished until the paperwork's done; in fact it can't even start until the paperwork is done. With all the calls on our time, we have been on the lookout for for some reliable helper to take over when our calculator and our ageing typewriter leave us, praying for days with 48 hours in them.

Well, the prayer has been answered in the form of the Amstrad PCW (don't ask me to call it Joyce, I never did like that name...anyway with all its magical powers I see the PCW more as a genie...no, definitely not a girl's name, Aladdin perhaps...I digress). We had favourable reports from our accountant, we read a few computer magazines, and one visit to Curry's later the office had been computerised.

First footing

I should point out that I have had no previous experience of word processing nor of using computer programs: my working life to date has been in strictly manual clerical and administrative systems. and I'm no typist, to boot. For me carbon copies hold many terrors, and Tippex, used by the pint, has been an indispensible accessory to all my QWERTY crimes.

However, despite misgivings inculcated by various magazine reports of the PCW's manual, I surprised myself by the ease with which I was able to get Locoscript to produce beautiful letters to my husband's clients. I was puzzled about envelopes, but since the text in the Locoscript template suggested 'address correctly positioned for window envelopes', I decided to give the latter a try. They work very well - a great little time-saver.

Delighted with progress, I consigned the hated typewriter to the back of the understairs cupboard, with my Tippex and carbons. Although I had seen samples of the printed output from the PCW before purchasing our machine, I admit to slight disappointment in the NLQ printing. However when I look at the costs involved in upgrading to a daisywheel printer, not to mention the space needed to house same, I feel I can manage with the integral printer, and I enjoy varying the look of our letters with Bold, Word Underline, etc.

Incidentally, I've discovered that we can produce very smart small adverts for local newsagents windows, and the different Style types, especially 10 pitch for headings, can be used to great effect.

At this stage my main worry was to find a comfortable position for me and the PCW in our rather limited home office space. I haven't quite cracked this yet, but a proper typing chair has improved things, and I may invest in an anti-glare screen.

Automated estimates

Naturally, a large part of the paperwork of a building firm involves estimating, invoicing, final accounts and contract documents. I had to wrestle with the complexities of Layouts for a while, before I could create a Template Std. for each of my Groups, but by trial and error I managed to get tabs and decimal tabs, and certain fixed text set up, and what a joy it is now to be able to produce a perfectly formatted invoice or estimate with columns of information and prices lined up.

To one who never mastered tabulation on a typewriter, (I just didn't use tabs at all), the decimal tab in particular is a miracle. We are now considering ways to use the PCW in the actual production of an estimate; Cornix's Job Estimate is one possibility. This will be a challenging area for us, since estimating is a crucial part of a builder's work - the tried and tested manual system is reliable but very time consuming; errors can be costly. At the moment however, pride of place in our library of programs belongs to Sage Popular Accounts.

Popular Accounts

Fortunately our accountant uses an Amstrad, together with Sage Popular Accounts (*Very handy – Ed*), so we have been gently eased through the trauma of giving up a

VAT book and Cash book and various bits of paper with summaries of wage payments. Bought ledger, or 'Purchase Accounts' as Sage insists we call them, takes up most of the inputting time, since we buy over £30,000 worth of materials per year. Each invoice account is automatically updated so that at the end of a quarter we can produce a VAT analysis for Customs and Excise, and not a calculator in sight.

No more adding and re-adding interminable columns for figures until they balance. With the Sage program we simply enter the gross amount of an invoice, tell the system what VAT code to use, and the amount of VAT and the net amount are calculated automatically.

So far, I haven't experienced any serious problems with the program, although there are a lot of disc changes to make which slows progress down - an 8512 with two disc drives would avoid this. Another small quibble is that it isn't possible to enter a company name more than 25 characters long when one first enters the system. This has caused us the loss of a crucial part of our name when reports are printed.

At this stage, we certainly feel that we are getting tighter control over our accounting, with the expenditure of marginally less time. I suppose the ultimate test will be whether our records are sufficiently complete to reduce our accountant's time and bills when he does our yearly audit.

All in all we are delighted with our Amstrad, and we are looking forward to exploring the PCW's other abilities - possibly a 'fun' newsletter for members of staff. We'll be introducing out two year old to the computer age; perhaps he can learn to spell on Mummy's 'pooter', as he calls it. 'DON'T TOUCH!' may soon change to 'Please hurry up with your homework, so that I can do the Accounts', or even 'Please hurry up with the accounts!'

EXIT

Are you a case?

Has your PCW revolutionised your life? Traumatised it? 'Case in Point' is a regular feature of 8000 Plus, and we are always looking for readers with interesting experiences to relate. If you use your PCW for something more than just running LocoScript, why not share your thoughts with a waiting world?

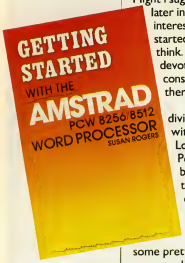
Try to keep things light but specific, with a fair smattering of hard facts about the packages you use. If you've had a bad time with some software, don't be afraid to sound off – you could be saving other readers weeks of agony.

We are looking for articles of not more than 2000 words, for which we will pay our usual generous rates. Write to *Case in Point, 8000 Plus, The Old Barn, Somerton, Somerset TA11 7PY*

BOOK LOOK

With his PCW on his pillow, noted insomniac Jeremy Spencer does a little bedtime reading

Getting Started With The Amstrad PCW 8256/8512 Word Processor. £7.95 • Susan Rogers • Phoenix Publishing



Might I suggest a little competition, to be held some time later in the year because it's bound to get more interesting. It's simply to guess how many 'Getting started...' with LocoScript books there are. I hate to think. By now I expect LocoScript has more books devoted to it than WordStar does, amazing if you consider that many pirated copies of Wordstar there are, all without manuals.

Susan Rogers follows the standard practice of dividing her book up into little sections, dealing with getting started, copying discs, loading LocoScript, editing text and so on and so on. Perhaps the most notable difference between this book and so many of the others is trouble she has taken to keep the readers minds pure from computing terms and concepts. This is a book about word processing – that's all.

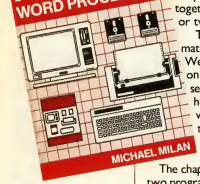
In fact so hard has the author tried to spare the reader from anything technical that there are some pretty awful gaffes which are far from helpful to anyone who strays from the blinkered life of LocoScript. Utilities are not *names*, but *code words*. Likewise she explains that every disc should be formatted before files are copied onto it – we all know that DISCKIT can format while copying so saving a little time and effort.

Each section of the book is a mini-tutorial. The reader is given a task to perform and then gently led though its completion. A nice technique for a while, if a little boring later. The style is easy going and should provide easily digestible information for the reader. I am only concerned that the subject area is so limited, so that after digesting the information you will be left with the feeling something like that on leaving a Chinese restaurant – it was nice at the time, perhaps a little overpriced and I'm hungry again.

No index, but among the book's 168 pages of well spaced, large type, you will find a useful 'Crib Section' listing the sequence of events necessary to perform mundane file copying, formatting etc. Also listed are all of the command letters and key functions, as well as a glossary of computing terms which is perhaps more reassuring than it is useful.

Getting Started with the Amstrad PCW
ISBN 0-94657-658-0
***8000 PLUS* VALUE VERDICT** ■■■■□

Using The Amstrad Word Processor £8.50 • Michael Milan • NCC Publications



Thankfully this book is a little more interesting than its title might suggest – only the first 87 pages are devoted to using LocoScript, and while the tuition given might not be as thorough and foolproof as that provided by 'Step by Step...' or even Susan Rogers' book, it is quite adequate for all but the most asinine.

Michael, if I might be so forward ('Mr Milan' disorientates me geographically), has no preconceptions about his readers. He clearly assumes that they would like to become computer literates who use *commands* rather than *code words*. I know I am supposed to be a computer expert because I can throw a boot disc together, but if I was a beginner I would learn a thing or two.

The LocoScript section seems fine. Moving on to matters more engaging we are introduced to CP/M. We are told why it is so important and life takes on a meaning again. To get the best out of this section you are going to have to do some homework of your own; let Michael point the way and seed the desire, and don't be frightened to experiment. No computer ever died from the wrong instruction – a few files deleted to be sure, but *c'est la vie*.

The chapter dealing with BASIC is useful if only for the two programs it contains, one being a card index system the other a typing tutor. This isn't an introduction to the language – well it's meant to be, but I can't see it satisfying the beginner. But never mind, there are bound to be many who will draw inspiration from this section.

Some useful advice is offered on commercial software, even if only two wordprocessors and no spreadsheets or databases are mentioned by name.

The author clearly has a disposition towards computer communications – over forty pages are devoted to the subject. Apart from the plug for ChitChat it's all useful information. He explains the different systems you can access, how the systems could help you, he even describes how to use Mail232. Instructions are given for connecting your PCW to a modem, a Brother typewriter, a BBC and even a Tandy computer. (Not an Amstrad CPC or 1512!).

At the end of the book is a list of characters available from within LocoScript, the dreaded ASCII table and some rather clever charts showing how the menus in LocoScript fit together. Can't help feeling I have seen those somewhere else.

It's well worth considering this book. It will help you understand computers, LocoScript and communications. It really is refreshing to see a book which addresses itself to the computer – rather than just the wordprocessor. EXIT

Using the Amstrad Word Processor
ISBN 0-85012-567-7
***8000 PLUS* VALUE VERDICT** ■■■■□

Plan It

ACCORDING TO PLAN

Plan It
£24.95 • Database Software • 061 456 8383

To be a real sidekick, a personal computer should do more than process a few words, add up columns of figures or remember your grandmother's birthday. It should really help you in your everyday life, by 'taking care of your day to day activities and helping to rationalise your future financial position'. This is what Database software would have you believe, and they've released Plan It, a 'personal organiser' to further their aim.

Plan It is a suite of three programs designed to help you balance your books, note down vital addresses and record important meetings and the expenses incurred in attending them. As an after-thought, there's an interest calculator and a calendar program (similar to those recently published in *8000 Plus*). The whole package is provided with a very smart front-end involving well designed menu screens, and is reminiscent of Database's big success, Mini Office II (although this package is not yet available on the PCW). The three main sections of Plan It are a home accounts program, simple card index and financial diary.

Start up

The package consists of a plastic, video-style case containing a single disc and a small, square, spiral-bound manual. The manual details all the functions of the various modules, is well written and indexed, but has no reference section. You have to delve quite hard to find the capacity of the card index, for instance, or how many financial transactions you might expect to hold on a PCW disc.

To run the system, you load CP/M, switch to the Plan It disc and run the program by typing its name. Plan It automatically copies some of its program modules into the M: drive, although you still have to swap program for data discs periodically, if you're working with a single drive machine. Plan It won't load unless the M: drive is completely empty, which can be a nuisance. The programs are completely menu-driven, which means that most of the options are selected by highlighting an option on a screen menu. This makes the package very easy to use, but is not quite as quick as using single command keys. The general presentation of the suite is very good, with the intriguing use of a forty column screen mode for all the menus.

Home Accounts

This is the type of program you will find exceptionally useful if you're a methodical person who is keen to keep every aspect of your finances under scrupulous control. It depends entirely on the accurate and continuous entry of all your financial transactions. If you don't keep them up to date, you won't get sensible figures out of the program.

The main menu in the accounts module offers six options:

- Expenditure Accounts
- Bank Account
- Credit Cards
- Load File
- Save File
- Month End Update

The first three of these options call up further menus which deal with the particular sub-modules. 'Expenditure Accounts' deals with individual payments that you might make by cheque, cash or credit card. A transaction is entered by stipulating the date, amount and payee, and the cheque number if paying by cheque. You can call up reports of the payments made up to any date in the current month, either by transaction or on a cumulative basis.

Each payment is assigned to a particular heading, such as electricity, telephone or computer software (the last being the most vital, of course). You can redefine any of the 24 headings, although each one is limited to ten characters. 'Hotels Fund' becomes 'Hotels Fun', for example, which is perhaps appropriate. More limiting is the same restriction on payee names, so the 'National and Provincial Building Society' has to be reduced to 'Nat & Prov'.

Things like standing orders and credit card payments (paying off credit card accounts) are handled from the Bank Account option. This is where you also enter details of your account, interest charged on it and bank charges incurred. You can call up a statement for any date in the month, and the program will only detail payments up to that day. All reports can be directed to the screen, the printer or to disc.

Bank: Midland — Statement of Account
Branch: Somerton — Account Number 8239864328

Date	Particulars	Debited	Credited	Balance
b/f				100.00
14/01	200303 Compoff	399.00		299.00 dr
14/01	Int. Midland	35.00		334.00 dr
15/01	Bk Chg Midland	56.04		390.04 dr
15/01	Cash Dispenser	30.00		420.04 dr
16/01	200301 SWEB	165.08		585.92 dr
24/01	St Ord Nat & Prov	128.65		714.57 dr
25/01	200302 BT	127.67		842.24 dr
29/01	Credit SuperCon Ltd		883.00	40.76

▲ A bank statement from the Personal Accounts module

The file of transactions which you create each month can be saved to and loaded from disc and is reconciled at the end of the month, with a balance carried forward to the next. Overall, the module acts as a single ledger accounting system in miniature. It works well, but takes some effort to keep everything up to date.

The Card Index

As the financial accounts module is an accounting system in miniature, so the card index is a database in miniscule. It offers a number of predefined records, onto which you can enter details such as names and addresses (the ►

application catered for in the package) or other simple pieces of information.

Although most of the normal features of a database are there (browsing and searching, for instance), the main limitation is the restriction to one key field, which must be the first field. This means that you can only search your file on entries in this first field. Each field can be up to 40 characters long and you can get approximately 200 records on the A: drive or 600 on the B: drive.

The card index is straightforward to use, but there are a couple of little niggles, like the fact that you can't scroll through from the last record back to the first, and that the file isn't automatically closed when you try and exit the program: you have to close the file and leave the program as two separate operations.

You can produce reports and labels from the information in the card index, and specify which fields will be included in each. If you're using it to hold a name and address list, for instance, you could print out a telephone list or a set of address labels quite easily.

Plan It is intended as a personal organiser, so it would be unfair to expect too much from the card index. Having used the database in Mini Office II, though, I've grown used to luxuries such as sorting and redefining the size and shape of the record card.

Database terms
If you think of a database as a computerised box of index cards, the box will be referred to as a file, each card as a record and the items of information on the card as fields.

▲ The record screen from the Card Index module

The Financial Diary

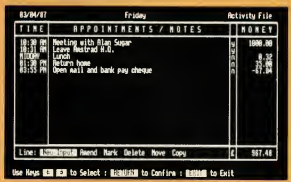
The third main part of Plan It is a 'desk diary', with added financial information. You can enter details of appointments and meetings for any date in any year up to 9999 (real forward planning), and note your expenses or the deals you've scrounged from your associates. Ideal for the hard pressed company representative, I'd guess, assuming they carry their PCWs around with them (and which hard-pressed rep wouldn't?).

The diary program seems to have been written by a different programmer from the rest of the package, as it uses a system of horizontal menus to select its many functions. This isn't as easy to use as other parts of the program.

Once you've made entries into the 'activity file', you can mark them, so that you can later search for that particular entry. You can also call up any specified day to display your appointments. Once a month has passed, you can archive all the entries for that month to a separate archive file, so keeping the activity file short.

You can produce reports from the diary by searching through the entries for each day (there can be up to 15 of them) and extracting only those you've previously marked or where particular amounts of money changed hands.

Built into the financial diary is a calendar which will display a day and date calendar for any selected month. Only years after 1900 are accepted, and 1900 itself is incorrectly treated as a leap year (see this month's PostScript pages). A quick stab of [EXTRA][PTR] will copy the calendar to the printer. You can also flick through the calendar month by month.



▲ A page of appointments from the Financial Diary

The loan calculator

This program calculates monthly and total repayments and total interest paid, when provided with figures for the principle and interest rate. Works well, but I wonder if a pocket calculator isn't a lot simpler and quicker.

▲ The loan calculation screen

Verdict

Plan It appears soundly programmed and presents all its functions in an easy and quick to use form. It achieves what it sets out to do, although a bit more flexibility in the card index wouldn't go amiss. An added bonus, which it would be nice to use separately from Plan It, is the character set. This is a completely redesigned screen font without serifs, and looks very smart. When you leave the program, the font stays intact until the next time you restart your PCW.

My only niggling worry is that there are actually not that many PCW users who are prepared to put the effort into 'structuring their affairs' to really accrue the benefits of a package like this. I guess Database Software must have researched their markets though, and time will prove them right or wrong.

PLUSES
- A lot of program for your money
- Well designed screen layout and operating system
- Decent manual

MINUSES
- Methodical approach needed to gain benefits
- Card index could be more flexible

RANGE OF FEATURES	■■■■□	PERFORMANCE	■■■□□
EASE OF USE	■■■■□	DOCUMENTATION	■■■□□

8000 PLUS VALUE VERDICT ■■■□□

EASYPIP
£19.95 ● Focus ● 0272 420109

Once loaded, Easypip with its Loco lookalike screen, shows the current logged drive and the current 'mask' – for instance NW??????.COM is a mask for all files beginning with NW and ending COM. The number of files in the directory, the number of files listed and bytes unused on the disc are also shown on the status line. All filenames conforming to the current mask are listed on the main section of the screen.

All of Easypip's functions are invoked from the command bar at the top of the screen, either by moving the cursor so the chosen option is highlighted or by entering the capital letter associated with each command name. Directory displays a list of legal drives – select one by trundling the cursor around. The Options window allows a mask to be set, instructs Easypip whether to display directories sorted or not, and toggles 'overwrite' on or off – with overwrite off a file will not be copied onto a disc if a file of the same name already exists.

The Copy command lets you move the cursor among the displayed filenames and select them with the ⊞key for copying. Otherwise you can use a mask to select a whole set, and then copy them all using the 'A' key. Once you have selected the files you simply select the destination drive using the cursor keys.

Rename is pretty obvious, as is Erase where files can be selected in the same way as if they were to be copied. With the 'execute' function selected Easypip displays all COM files, by moving the cursor bar over one of them and pressing enter the program will be run. However this option does not behave like Shell – once you exit from the program you are returned to CP/M, not to the Easypip menu.

Mini-reviewer Jeremy Spencer looks at a program for the novice, and one for the expert

Many PCW users barely venture from the safe clutches of LocoScript, and know nothing of file copying, renaming and deleting other than via its Disc Management screen. Yet for those who suffer from the inflexibility of LocoScript's disc management, or who want to run CP/M software, using CP/M's PIP can be a little daunting.

Only those who have an absolute and complete (unnecessary) fear of PIP would need this program. It is far from complete. Other than allowing you to move files and rename them with some ease it does not recognise 'user areas', so not all of the files on the LocoScript disc are shown, nor is there any way to show them if they aren't in user area (ie. group) 0. The program does recognise files set to 'system' type, invisible to DIR, and treats them as if they were ordinary files, so I suppose that's one mystery cleared up for those trying to copy their SuperCalc disc. I was shocked to find that characters which are illegal in filenames can be included in the mask, which is bound to confuse those who this package sets out to help.

For my money, far too many of the powerful PIP functions are lost to the user. Also, if you want to make self booting discs, and use the power of SUBMIT.COM, you can't use Easypip for the transfers to memory drive – so you will have to use PIP anyway. Consider saving your money and getting to know the beast.

RANGE OF FEATURES	■■■□□	PERFORMANCE	■■■□□
EASE OF USE	■■■■□	DOCUMENTATION	■■■■□

8000 PLUS VALUE VERDICT ■■□□□

BCPL
£39.95 ● Arnor ● 01-684 8009

BCPL is different to BASIC in that it is a compiled language which encourages structured programming. Usually a BASIC program is interpreted line by line; as each line is executed so the interpreter converts the instructions into the machine code equivalent. It is not really possible to write structured programs in BASIC – a structured program like Pascal or BCPL allows you to build a program from a series of procedures. Simple tasks have procedures which can be regarded as commands. The very first procedures in a BCPL program is always START – from here other procedures are called, which in their turn call yet more procedures.

The Arnor version is based on the accepted definition

Arnor's Protext has many admirers, justifiably so since it is an excellent package. But the programmers among you may be interested to know that the package was programmed in a language known as BCPL. Arnor are now selling this programming language by itself.

of BCPL laid down by Martin Richards and Colin Whitby-Strevens in their book 'BCPL – The Language and its Compiler'. The manual cites this as being essential reading. In fact the manual does little to educate the potential user in the ways of BCPL, so the book is vital.

There is a version of BCPL available from the Public Domain but it isn't anywhere near as complete as Arnor's. The Arnor version comes with a good library of procedures to handle the essentials of programming, like getting information from the keyboard, to the printer or from the disc. These actions are likely to be machine specific –in fact the package caters for both Amstrad CPC and PCW machines separately. Documenting these libraries takes up most of the manual, and PCW owners get a free ROM for use with CPC's, which is no use at all.

BCPL is an eggheads language, but users of Protext can see what can be accomplished. The Arnor version has two immediate advantages for those interested in this level of programming. The libraries and the quality of the compiler – it is very fast. One of the problems with compiled languages is that you have to compile the program before you can test it, so the speed of the compiler can make all the difference.

RANGE OF FEATURES	■■■■□	PERFORMANCE	■■■■■
EASE OF USE	■■■■□	DOCUMENTATION	■■■□□

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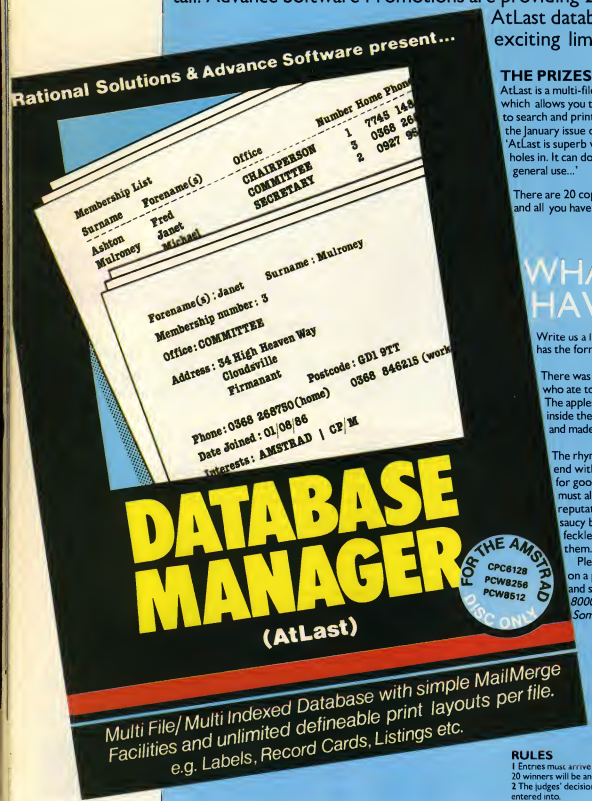

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2 The judges' decision is final, and no correspondence will be entered into.

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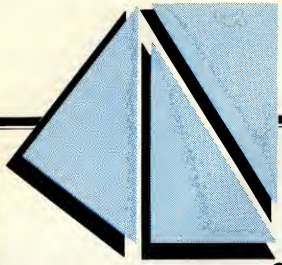

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Amsoft

MIND BENDERS

This month's games cater for strategists, adventurers and would-be masterminds. Do we know any?

THE PAWN
£24.95 • Rainbird/Magnetic Scrolls • 01 240 8838

This game lives up to the reputation it has acquired in its previous incarnations.

Having been bonked on the head by a mysterious figure in a white coat, you wake up in the enchanting world of Kerovnia ruled by the unpopular and indecisive King Erik. Now this is no ordinary Kingdom, of course, primarily because its almost exclusive industry is the manufacture of alcoholic beverages, most notably, Farthington Real Ale (how amazingly original: yet another flatulence joke!).

You start the game at the end of a violent power struggle between the Farthington Real Ale Company, the Romni gnomes (producers of spring water) and the Roobikyoub dwarves, who just happen to be producers of the finest malt whisky this side of paradise.

The object of the game is to escape from Kerovnia. But before you can do that you must remove the singing wristband that refuses to relinquish its hold on your wrist. As you progress through Kerovnia's magical locations - whether cave, mountain, ice tower, forest or golden palace - a variety of items must be collected. These include, of all things, a wheelbarrow. The shirt on your back is also an invaluable asset and, used imaginatively together with other items, can get you through a number of obstacles.

You must also deal with a host of colourful characters; including a Buddhist monk who can't stop laughing, a rather glum snowman, the evil wizard Kronos and the Adventurer who rides, somewhat ambiguously, a legless horse (too much Farthington Ale no doubt!). These are very interactive and can provide you with information about the purpose of your mission and how you might succeed.

The location, score and number of moves are detailed along the top of the screen . Below this is the graphics window which can be turned on or off or even scrolled upwards. There are thirty illustrations in all, of varying quality.

The text is clearly written and can be read in 'brief' or 'verbose' mode so that you don't have to repeatedly read scene descriptions that have become familiar to you. Most importantly, however, the program is capable of handling very lengthy commands. (For example 'Lift mat then get wooden key and metal key then unlock door with metal key open door enter shed and then get hoe and rake...').

This package comes with a novella which is a useful reference when playing the game. Particularly helpful is the 'Cypheric Help Section' which appends the novella. This gives you 'encrypted' messages which can be keyed into the program to help you through any sticky patches you might encounter.

The Pawn is an excellent piece of adventureship. If you don't find it compelling, addictive and all that an adventure should be, there's something wrong with you!
Tony Flanagan

PLUSES
- User-friendly with a range of both textual and graphic options
- Lots of variety and good doses of the unexpected
- Can cope with complex demands
- Wide range of responses

MINUSES
- Why quibble when the game is this good?

ATMOSPHERE ■■■■■ CHALLENGE ■■■■■
INTERACTION ■■■■■ VALUE VERDICT ■■■■■
8000 PLUS VALUE VERDICT ■■■■■

ANNALS OF ROME
£17.95 • PSS • 0203 667556

Annals of Rome is a wargame set in the 'ancient' period. It churns into action and immediately places you in the position of the Senate in 273 BC. It's up to you to guide Rome through 14 centuries of history - if you can survive that long.

On each turn you set a tax rate, which can range from 1 to 2 Talents per person. Unfortunately, that is all the economic interaction provided. The program decides how you spend it. The only other chance you get is to buy off rebellious troops. You then have to deal with personnel and, according to your popularity, you may have the chance to move commanders around the Empire.

If anyone is revolting (!) you enter the Civil War phase, to try and quell the insurrection with minimum damage to your army. This is followed by the foreign wars phase, in which you fight any of the 33 other national groups that appear in the game.

The game produces some of the atmosphere of the period. I fought a whole series of Punic wars against the Carthaginians very reminiscent of the real campaigns *(Note: must check age of contributors - Ed)*. When the Huns invade the Empire in the 4th century AD, you get a sense of helplessness, they win, inevitably Rome gets sacked and the capital needs to be moved eastwards.

Atmosphere is also emphasised in the speed of play. If the advertising blurb said that it was a real-time game I could almost believe it! The map takes ages to be drawn and this needs to be done at least twice a turn. Some of the processing also takes a long while.

The game's programming is flawed. It seizes up occasionally; it tells you there are no troops in adjacent provinces and you arrive there to find 90,000 Seleucids, and it wipes 78,000 legionaries off the role, mid turn, without a by your leave. The 'Save' facility circumvents these problems, but it's tiresome to have save the game after ever turn.
Chris Steadman

PLUSES
- Well researched
- Needs much planning and skill

MINUSES
- Bugs cause problems
- Slow
- Instructions could be clearer

ATMOSPHERE ■■■□ CHALLENGE ■■□
INTERACTION ■■□ VALUE ■■□
8000 PLUS VALUE VERDICT ■■□□□

LEATHER GODDESSES OF PHOBOS
£14.95 • Infocom • (Through Activision)01 431 1101/2992

Lascivious, licentious, lewd, Leather Goddesses of Phobos is the ultimate in titillation. If you're into bondage, all the better! For this game is a randy romp through the solar system.

But wait, before any prudes out there start getting their leather knickers in a twist, the game is parody rather than pornography. And what it parodies is US pulp sci-fi of the 1930s...whatever that was like!

The scenario is this. The Leather Goddesses of Phobos (Phobos being a Martian moon) want to turn the Earth into a sexual playground, and all men and women into sex slaves. So what's the problem ? I suppose some people just don't like enjoying themselves these days. So, it's your job (you bore!) to frustrate their rather enlightened plans.

To do this you have to find a variety of apparently unrelated items and then build the weapon which will stop the voluptuous Martians in their voluptuous tracks.

Having drunk yourself silly in Big Joe's Bar, Upper Sandusky, Ohio you go to relieve yourself in the 'Gents' or 'Ladies'. Your choice determines your sex (so if you're male and you want to play transvestite use the 'Ladies'.)

No sooner have you relieved yourself, than there's a flash of lightning and you are kidnapped by a bunch of aliens. Some hours later you wake up in a cell, far far away from Joe's bar, and thus the adventure begins...

There are three playing modes: tame, suggestive and lewd. To play lewd, however, you have to be or pretend to be eighteen, otherwise it's a no-no. Appropriately, the text can be read in briefs: namely 'brief' or 'superbrief mode', or if you want to do without briefs altogether (you naughty person!), you can switch to 'verbose'.

Like all Infocom games, this one permits multi-commands, and has an extensive vocabulary and a good range of responses. The special command 'Diagnose'

gives you a brief report on your medical condition (in this kind of game you're prone to all types of illness!).

Accompanying the game is a comic to be read with the 3D glasses which are also enclosed, and a scratch and sniff card which you are referred to at various points in the game.

'I have spent more entertaining evenings with this game than I have with most men', says 33 year old Marian, from Omaha, Nebraska. Well Marian, it seems you've been seeing the wrong sort of fellahs. Perhaps you should come down Somerton way where the men are men and the women... avoid them.

However, its good to see that the other side of the Atlantic have something other to offer us than nuclear bases. Leather Goddesses of Phobos promises many hours of entertainment. Hot Stuff!

Tony Flanagan

PLUSES	MINUSES
⊞ Excellently presented	⊟ Perverse
⊞ Lots of detailed information for the novice	⊟ Portrays women as sex objects
⊞ Compellingly frustrating	⊟ The Pope wouldn't like it!(?)
⊞ Marvellously tongue in cheek	

ATMOSPHERE	■■■■■	CHALLENGE	■■■■■
ADDICTIVENESS	■■■■■	VALUE VERDICT	■■■■■

8000 PLUS VALUE VERDICT ■■■■■

MICRO TRIVIA
£19.99 • Harold Gale Assoc Ltd • 0902 772771

With the current interest in anything bearing the name 'trivia', you'd think Harold Gale would be on to a winner with this quiz offering on the PCW. It's certainly packaged smartly enough, but, as they say, beauty is not skin deep.

Micro Trivia is a simple quiz program based around a 'noughts and crosses' board. The micro throws questions at you and expects a speedy response. If you're right, you get to choose the next square on the board. If not, the computer chooses it for you. Three squares in a row win you the game, and you're treated to a 'fun IQ' score. This is about as much fun as being locked in a cupboard overnight, and about as enlightening.

There is little to recommend this game. The loading instructions, which are photocopied onto a small scrap of paper, advise you to boot the disc from scratch. This works, but only because the company has copied CP/M, PIP and SUBMIT onto the production disc. They may have reached an agreement with Digital research to do this; then again....

The program itself is a short BASIC listing with minimal graphic content and the bear essentials for playing the game. You can select a time limit for your answers, but this seems to have little effect on your final score, which is, as far as I can see, selected at random. Sometimes, but not always, you're allowed to add your name to a high scores list. Nearly always, though, you're treated to a comment on your performance. They run along the lines of 'you are the ultimate DOPE', which is a tremendous encouragement to play again.

The questions themselves, billed as 'pot luck', are nearly all to do with land areas and dates and can be listed out by the unscrupulous with nothing more mind-bending than use of the CP/M utility TYPE. You might expect a degree of encryption.

Micro Trivia makes much of its Mensa ancestry, but certainly doesn't reflect any particularly high intelligence.

Simon Williams

PLUSES	MINUSES
⊞ An extra 10000 questions are available	⊟ See above

GRAPHICS	■□□□□	LASTING APPEAL	■□□□□
ADDICTIVENESS	■■□□□	VALUE VERDICT	■□□□□

8000 PLUS VALUE VERDICT ■□□□□

UNRAVELLING STRINGS

John Hughes explains why strings may be numbers but numbers are never strings

When we looked at variables in the second article of this series, we gave them names like A and B, and then slightly more imaginative ones like RTOT (which, you may remember, was a Running TOTal), and we looked at some of the rules for giving variables names. There is a little more to variables than this, and now we'll learn how to use them to handle words as well as numbers.

BASIC recognises three different kinds of variable, though many programmers don't distinguish properly between the first two types. The three types are integers (such as 3, 42, -165), which are whole numbers; real numbers (1.0, 476.78, -.03), which may have a decimal part; and string variables, which are collections of characters not used for arithmetic (Hello, 01 326 4567, Jones & Son). Strings have to be enclosed in speech marks, like "Good morning", when they are used in a program.

Incidentally, this division of variables into three types isn't the result of some fundamental law of nature. If you ever move on to learn other languages, like Pascal, you will find that many other types are possible as well, and that in some languages you can even make up types of your own. But most learners find that BASIC's three different kinds of variable are plenty to be going on with.

A PRINT aside
Notice the three commas in Lines 290 - 320 Commas between items in the 'print list' - the variables which come after the word PRINT - have the effect of spacing output at notional 'tab spaces' across the screen, and the three commas we have used here will make the display format tidily under the headings. Notice also the use of PRINT on its own in a program line; these place a blank line on the screen.

The 'Redo from start' message

One of the most confusing error messages that you can get from BASIC is 'Redo from start'. What it means is that you have not typed in the kind of data that the program is expecting; usually, you have input non-numeric characters such as 'A', 'x' or '&' when the program was expecting a number.

This may be because you have made a mistake during input, but when you are using a program that you have written yourself it almost always means that you have used a numeric variable name when you should have specified a string variable. Press [STOP] to leave the program and put a '$' on the end of the name of every variable which expects a string value.

Are your integers real?

You may wonder why BASIC should bother to have two different sorts of variable to handle numbers; after all, numbers are numbers, surely? It has to be admitted that a lot of happy-go-lucky programmers use real variables all the time, whether they are dealing with real numbers or not. Indeed, we did so in Part 2 of this series.

All the same, integers do have two big advantages over real numbers. The first is that they only take up about half as much room in the computer's memory as real numbers, so if you are running a big program which needs a lot of elbow-room, it makes sense to use integers whenever you can.

The second good thing about integers is that they can always be represented completely accurately in the computer, whereas real numbers come with no such guarantee. This is because computers only work to a certain accuracy, and some fractions can't be represented with 100% precision.

It may help you to understand this if you remember that even decimals cannot represent some quite ordinary fractions like one-third accurately, but have to make do with 0.333 recurring.

There was a famous fraud some years ago which relied on the fact that this 'rounding error' caused minute amounts to be 'lost' while the interest on savings accounts was being calculated. The fraud consisted of adding all these tiny sums together and then crediting them to the account of the bank employee who had devised the scheme. Over several months, these tiny fractions garnered from hundreds of accounts grew into a lot of money!

To show that a variable contains an integer, put a percent sign, '%', at the end of the variable name. Real variables have no special symbol at the end of their name. You can see therefore that TOTAL and RESULT would both represent real numbers and TOTAL% and RESULT% would both be integers.

Just Stringing along

String variables are altogether more interesting. You add a dollar sign, '$', to the end of their names to show they're strings. They represent things like people's names, addresses and telephone numbers. They are called Strings because they consist of groups of characters which are 'strung' together.

Suppose you wanted a program to input and later output the names and addresses of your friends - a sort of simple address book. Program 1 is an example of what

```
10 CLS$=CHR$(27)+"E"+CHR$(27)+"H"
20 PRINT CLS$
30 PRINT
40 PRINT
50 PRINT
60 PRINT "Type in a name and press Return"
70 INPUT NAME$
80 PRINT "Type in the telephone number and press Return"
90 INPUT NUMBER$
100 PRINT
110 PRINT "Type in a name and press Return"
120 INPUT NAME2$
130 PRINT "Type in the telephone number and press Return"
140 INPUT NUMBER2$
150 PRINT
160 PRINT "Type in a name and press Return"
170 INPUT NAME3$
180 PRINT "Type in the telephone number and press Return"
190 INPUT NUMBER3$
200 PRINT
210 PRINT "Type in a name and press Return"
220 INPUT NAME4$
230 PRINT "Type in the telephone number and press Return"
240 INPUT NUMBER4$
250 PRINT CLS$
260 PRINT "          NAMES                    TELEPHONE NUMBERS"
270 PRINT
280 PRINT
290 PRINT NAME1$,,,NUMBER1$
300 PRINT NAME2$,,,NUMBER2$
310 PRINT NAME3$,,,NUMBER3$
320 PRINT NAME4$,,,NUMBER4$
330 PRINT
340 PRINT
350 END
```

this might look like, and will hold four names and telephone numbers - you could extend this to any number, but the repeated identical prompts get boring; we shall see how to deal with this later. For the moment, type in the program as it is and try it out. Because the program is rather a long one, you will find it quicker to use BASIC's AUTO facility to save you having to put in the line numbers.

Incidentally, you may be wondering why the telephone number needs to be input as a string variable; telephone numbers could surely be put in as numeric variables, without the '$' on the end of the variable name.

The answer is that it all depends on how the phone number is typed in: if you use only numbers, there will be no problem, but if you include any non-numeric characters, like a hyphen or brackets, then you will get an error message. Play safe, therefore; use a string variable.

Save the directory program as DIRECT.BAS; we shall come back to it before the end of the session.

What can you do with a string?

Obviously, you can't multiply and divide string variables like real and integer variables. What, after all, would be the result of PAUL times RINGO? (*10000 holes in Blackburn, Lancashire? – Ed*)

Basically, there are three operations which you can carry out on strings, and all word processing operations are based on them; you can add them together in a special way called 'concatenation'; you can pull a string to pieces, called 'string slicing'; and you can compare one string with another, to see if they are the same, or if one comes before the other in alphabetically. We shall look briefly at the first of these here.

```
10 PRINT "Give me a word"
20 INPUT FIRST$
30 PRINT "Give me another word"
40 INPUT SECOND$
50 WHOLE$=FIRST$+SECOND$
60 PRINT WHOLE$
70 END
```

Joining strings

Program 2 shows how strings can be concatenated; it asks the user to input two strings, and then 'adds' them together with the '+' sign. Type it in, and then input "Good" as the first string and "morning" as the second string; the program will fasten them together to produce "Goodmorning".

Can you see how to insert a space between the two words? There are actually two possible ways; the more professional would be to alter the program by changing Line 50 to put the space in automatically; it would then read

50 WHOLE$=FIRST$+" "+SECOND$

A simpler solution would be to hit the space bar before entering the first character of the second word, thus making the second word actually begin with a space.

Keeping prompts short with strings

If you entered Program 1, you probably found typing all those identical prompts rather boring. Worse, they swallow up an unnecessary amount of room in your PCW's memory.

```
10 CLS=CHR$(27)+"E"+CHR$(27)+"H"
20 PROMPT1$="Type in a name and press Return"
30 PROMPT2$="Type in the telephone number and press Return"
40 PRINT CLS
50 PRINT
60 PRINT
70 PRINT
80 PRINT PROMPT1$
90 INPUT NAME1$
100 PRINT PROMPT2$
110 INPUT NUMBER1$
120 PRINT
130 PRINT PROMPT1$
140 INPUT NAME2$
150 PRINT PROMPT2$
160 INPUT NUMBER2$
170 PRINT
180 PRINT PROMPT1$
190 INPUT NAME3$
200 PRINT PROMPT2$
210 INPUT NUMBER3$
220 PRINT
230 PRINT PROMPT1$
240 INPUT NAME4$
250 PRINT PROMPT2$
260 INPUT NUMBER4$
270 PRINT CLS$
280 PRINT "                    NAMES                    TELEPHONE NUMBERS"
290 PRINT
300 PRINT
310 PRINT NAME1$,,,NUMBER1$
320 PRINT NAME2$,,,NUMBER2$
330 PRINT NAME3$,,,NUMBER3$
340 PRINT NAME4$,,,NUMBER4$
350 END
```

Using the AUTO facility

If you type AUTO and press [RETURN] before beginning to enter a program, your PCW will prompt you with automatic line numbers, starting at 10 and then increasing in steps of 10.

When you have finished entering new lines, break out of AUTO either by pressing [STOP] or by holding down [ALT] and tapping [C].

How long is a string?

A BASIC string can be up to 255 characters long. You can't put a longer string into a program directly, but you could accidentally generate one by concatenating shorter ones together. If this happens, you will get a 'String too long' error message and the program will stop.

A simpler solution is to put each prompt into a string variable. For example, PROMPT1$ could contain "Type in a name and press Return", and PROMPT2$ could be "Type in the telephone number and press Return". Wherever the original program had the first prompt, you could replace it with PRINT PROMPT1$, and wherever the second prompt was needed, you could use PRINT PROMPT2$.

Program 3 shows the result. Change your program to match it, but don't save it onto disc yet; we are going to make one more important change which will help to get some real use out of the program.

This is to enable us to get the little telephone directory printed on the printer, instead of having it

```
350 PRINT "Do you want a print-out? Press 'Y' for yes, any other key for no"
360 ANSWER$=INKEY$: IF ANSWER$="" THEN 360
370 IF ANSWER$="y" OR ANSWER$="Y" THEN 390
380 GOTO 490
390 PRINT "Press any key when the printer is ready"
400 ANSWER$=INKEY$: IF ANSWER$="" THEN 400
410 LPRINT "                    NAMES                    TELEPHONE NUMBERS"
420 LPRINT
430 LPRINT
440 LPRINT NAME1$,,,NUMBER1$
450 LPRINT NAME2$,,,NUMBER2$
460 LPRINT NAME3$,,,NUMBER3$
470 LPRINT NAME4$,,,NUMBER4$
490 END
```

appear only on the screen. Program 4 shows a routine to do this; add these lines to the end of your program.

Briefly, what these lines do is ask you whether you want a printout or not. If you press 'Y' or 'y', you will be prompted to make sure the printer is ready, and then to 'Hit any key'; finally, the address-list will be printed out and the program will end.

The way this is done involves a new BASIC command, INKEY$. Look carefully at Lines 380 and 420 to see how it works. When INKEY$ appears in a program, the keyboard is scanned to see if any keys are being pressed; if not, a 'null value' (i.e. nothing at all) is assigned to ANSWER$; if a key is pressed, then ANSWER$ is given the value of that key.

Lines 380 and 420 use a little bit of trickery to make sure that the program sticks at the INKEY$ until you press a key; until a key-press is detected, the program will just loop around within each line. If you press anything except 'Y' or 'y' in Line 380, then the directory will not be printed.

INKEY$ is a very useful command, especially as any key which is pressed in answer to it is not reflected ('echoed' is the jargon word) on the screen. People who are not used to computers don't realise that they often need to press the [RETURN] key after making an input, and INKEY$ relieves them of that bother as well.

EXIT

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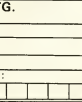

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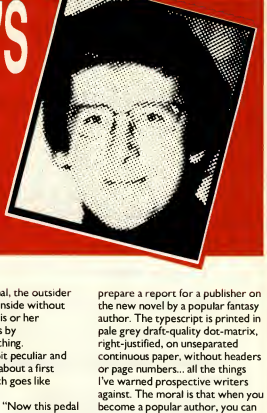
LANGFORD'S PRINTOUT

A page foolishly handed over to SF author DAVID LANGFORD who just happens to own an AMSTRAD



I staggered into the pub and cringed to see my usual drinking companions (the directors of famously obscure Pangolin Systems Ltd) holding their usual pints. "We'll have to stop this," I wailed. "There's a letter in 8000 Plus, issue 5, complaining that my references to pints in pubs are sexist because women are by implication excluded."

"What a shockingly sexist assumption," cried the female half of Pangolin, nudging her empty beer-mug significantly towards me. "Mine's another pint."

The relative fewness of female computer hobbyists may be partly due to the deep-dyed chauvinism of this column... but perhaps "hobbyist" is the key word. Flipping through other specialist magazines (model-making, yachting, motoring, game-playing, fishing, and unnervingly many about blowing holes in things with guns) suggests that obsession with any hardware-oriented hobby is a largely male disease. Sociologists can take it from there. (My one-time collaborator Charles Platt suggests the answer is simply that women are more sensible. I'm not sure whether this is an offensively sexist theory.)

The Controversial Bit

American computer magazines are nervy about offending advertisers: you learn to interpret subtle codes like '...excellent lightweight word processor' (translation: can't handle files of more than 1024 words). British reviews are blunter; for example, Dave Oborne in Another (Official) Magazine was quite acerbic about what seem to be worrying design flaws in WordStar 1.12. Imagine my surprise on finding – in the same issue – a user club newsletter which blusteringly attacks the review for being 'subjective'. Translation: 'We are going to call the flaws imaginary because we want to sell you the program'. Business is business, but it's a bit... unsubtle, isn't it? I wish I had the privilege of angrily responding in the same issue when my own software gets slagged by an 'independent' magazine.

Unfortunately, without a touch of obsessiveness it's hard to penetrate the barriers which surround the legendary Promised Land of Trouble-Free Home Computing. Magazines help a bit, except when the useful tip you need today has gone to ground in your heap of back issues covering the past eighteen months. When I first wrote a helpful piece for an Amstrad magazine, I discovered there are people who want to reinforce the barriers from the inside....

"I saw your article on how to make a boot-up disk," said this person who shall be nameless. ("Boot-up disk" is the insiders' way of saying "turnkey" or "start of day" disk – anything which automatically loads a program when inserted after first switching on.) "Good grief, they paid you for that? What a ruddy rip-off merchant you are. Everyone knows how to do that!"

He went on like this for a while, until I invited him to take a poll of everyone in the pub and find what percentage actually could prepare a boot-up disk. (My apologies for being in a pub again.) The reply: "Oh well, that's different." When he said everyone he didn't mean just anyone... only real people, computer people, the sort of people who could work things out from a badly-written manual the way he'd had to. What he really meant was, why should all those parvenus with their nasty PCWs have everything made easy for them?

Meanwhile, it's hard to imagine anyone working to strengthen the barriers from outside – but this happens, too. Those insiders who try to be helpful and give people a leg-over can be defeated (and sometimes permanently soured) by that perverse animal, the outsider who wants to get inside without actually polluting his or her precious brain cells by understanding anything.

If this sounds a bit peculiar and paradoxical, think about a first driving lesson which goes like this....

INSTRUCTOR. "Now this pedal is called the brake."

LEARNER: "Stop that, stop that, don't try to pull the wool over my eyes with all your technical jargon and gobbledegook, I don't want to turn into one of you motoring fanatics, just tell me how to drive the flaming car!"

People who take this attitude to computers usually end up with what they've asked for: lots of long incomprehensible sequences of keystrokes for doing this, that and the other task. One forgotten or miskeyed letter can leave them stranded and helpless, because they refuse to think about the underlying logic of what they're doing. Imagine learning a poem letter by letter, without reference to the words, metre or rhyme.... You can spot these users by the way they cross themselves and make signs to ward off the evil eye when confronted by the terrible A> prompt in CP/M. (All right, I know, many struggling self-improvers do the same.)

I now have to nip off and prepare a report for a publisher on the new novel by a popular fantasy author. The typescript is printed in pale grey draft-quality dot-matrix, right-justified, on unseparated continuous paper, without headers or page numbers... all the things I've warned prospective writers against. The moral is that when you become a popular author, you can get away with a lot. But not before. EXIT

THROUGH THE BARRIER

A> is for Apoplexy

In case you're very new to this: A> is CP/M's way of saying 'Please type an operating system command or the short name of a program – that is, the first name of any disk file whose surname is COM – followed by [RETURN]. Unless otherwise instructed I will apply the command to disk drive A, and will expect to find any specified program on the disk in that drive. If you enter something I can't understand I will say it back to you, followed by a question mark to indicate my hurt bafflement.' CP/M doesn't actually display a long message like this because, firstly, it was written for Real Programmers Who Already Know, like my pal in the pub; secondly, all that screen-clutter of useful information would get very irritating after the first two and a half appearances. Now you know.

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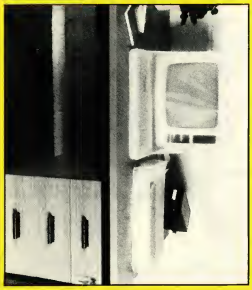

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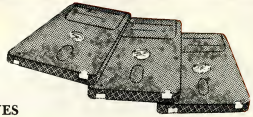

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APPEND	Attach records of one database to another
EMPTY	Eliminate all data in a database
ENTER	Insert new data into a database
POST	Update entries in one database with those from another
UPDATE	Change entries in a database meeting specified conditions

Information Processing and Report Writing

COMPARE	Compare entries in two databases for (not) matching conditions and create a RESULT database
COMPUTE	Compute entries in a database
LIST	Display database records in sequential order
PRINT	Print database records in sequential order
PRINTER	Printer output control and redirection
SELECT	Select database records meeting specified conditions, creating a RESULT database
SORT	Sort database records by entries
STAX	View or print statistics of entries
TABULATE	Summarize specified entries. Print or save the result
TITLE	Print report headings

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HELP	Assist operator in selecting procedures
INSTALL	Saves SET and PRINTER options
RESTART	Continue processing interrupted commands
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WRITE	Transfer records from a database to an ASCII sequential file

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COPY	Copy a database or file
DATE	View or enter date
DIC	View entries in the data dictionary
DIR	View the list of files in the disk directory
LOGDISK	Log a new disk in the computer
RENAME	Change the name of a database or file
SAVE	Save a RESULT database
SET	Set operating parameters
SYSTEM	Exit from Condor 1 back to operating system
TERM	Defines the computer (not needed on Amstrad)

A STITCH IN TIME

A choice of two Real Time Clock units now means that your PCW can tell you the time in Nassau, Sydney, Tokyo ... and Cleethorpes.

The Amstrad PCW 8000 series computers have a built-in clock, although in the standard PCW it is of limited use. You can set and read the clock very easily, with one drawback – every time you reset the PCW or turn it off, the clock is reset to midnight sometime in December 1982.

LocoScript users cannot get at the PCW's clock at all, but if you use the machine mainly for CP/M programs you could well find it useful. The main problem is that you have to go to the trouble of manually setting the clock every time you turn the PCW on, which is inconvenient.

You may ask what you actually gain by having the correct time at your disposal? Perhaps most useful is the ability to time-stamp files on your CP/M disc, as explained in this month's CP/M article. This means you can see which files are the oldest, or if someone else has used your discs recently. Some CP/M software can also access the date command. For example, you can set a cell in SuperCalc2 to hold the current date with the 'today' command, and NewWord can also insert dates into documents. If you write BASIC programs you can read the clock too.

A real time clock module can give you all these facilities, by ensuring your PCW always knows the correct time and date. There are two modules on offer, one from DK'Tronics at £34.95, and one from SCA Systems at £57.50. The two are quite different, in that the SCA one also has a complete serial/parallel interface adaptor, which normally costs around £55 by itself.

Both modules work in roughly the same way, plugging onto the expansion slot at the back of the PCW. The first time you power up the PCW you have to initialise the real time clock, so you run a special (supplied) program to set it up. The clock has a battery inside it, so it will retain the correct time even if you turn the PCW off.

The PCW's internal clock is not directly linked to the real time clock module, so whenever you power up the PCW you have to explicitly transfer the time from the (external) module to the internal clock which CP/M knows. To do this you run a special utility which is provided, so all you have to do is set up a PROFILE.SUB file on your CP/M startup disc to do this for you. Once set up, the time will be automatically every time you power up the PCW. EXIT

Real Time Clock £34.95 ● DK'Tronics ● 0493 602926

PLUSES
- ⊞ Has a through-connector to plug other expansion modules on the back
- ⊞ Displays time to nearest second (although CP/M date stamps don't use seconds)
- ⊞ 50 bytes of battery-backed RAM.

MINUSES
- ⊟ No serial/parallel interface!

All comments on the DK'Tronics clock module are based on advanced publicity. DK'Tronics were unable to supply a unit for review by the time this issue went to press, so no ratings are available.

RT Clock with Serial/Parallel Interface £57.50 ● SCA Systems ● 0903 504444

PLUSES
- ⊞ If you want a serial/parallel interface anyway, you get the clock effectively for free
- ⊞ Good instructions with examples for using the interfaces
- ⊞ Battery trickle-charges from the PCW – need never be replaced

MINUSES
- ⊟ Will run down after a month or so if not used
- ⊟ No help in the manual on time-stamping CP/M files
- ⊟ Manual is a text file on disc – you have to print it out yourself
- ⊟ No seconds on the clock

RANGE OF FEATURES ■■■■■ PERFORMANCE ■■■■□
EASE OF USE ■■■□□ DOCUMENTATION ■■□□□

8000 PLUS VALUE VERDICT ■■■■■

The SCA clock comes with a variety of little utilities, including this one to display a clock on the screen.

Real time?

'Real Time' is just typical computer jargon meaning ordinary time as clocks tell it. The term is used by programmers writing simulations, who also use artificial time in their programs so they can simulate the events of days or months in a matter of minutes.

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System Requirements

- Amstrad PCW 8256 or 8512
- PCW or Epson-compatible printer with Centronics interface

Optional

- Kempston mouse
- Electric Studio lightpen

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If you would like to receive more information on Fleet Street Editor Plus for PCW write to Dept. FSE, Mirrorsoft Ltd, Freepost (BS4382), Paulton, Bristol BS18 5BR
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MODULE POWER

Turbo Pascal became a 'cult' programming language. Will the same happen to the latest release from Borland International?

If you're using your PCW for 'serious' programming, rather than this mamby-pamby BASIC or Logo stuff, you might like to consider a 'real' language. Pascal's successor in the structured programming world is Modula 2. It's a language which produces fast, compiled programs, but is quicker to use than many, since it produces interdependent 'modules'.

TURBO MODULA 2
£63.25 • Grey Matter (manu: Borland)
• 0364 53499

Turbo Modula 2, like many computer languages, is a rather ephemeral product. You receive a disc and a doorstop of a manual, but little in the way of the fancy packaging that you normally expect with software releases. What you're buying is not the paper or plastic of the physical product, but the facility to produce fast and useful programs in a compact and flexible version of a modern computer language.

Turbo Modula 2 runs from CP/M, like Mallard BASIC, but unlike Mallard it comes complete with a full screen editor, and its own operating environment. As well as adapting the compiler to your own needs, you can display directories, and copy, rename and delete files without having to leave Modula 2.

The Editor

The editor is quite closely based on WordStar, but cut down to leave only the functions likely to be of use to a programmer. So, for instance, you can search and replace a variable name with another, scroll or page through your program, copy blocks of commands from one place to another and read in sections of program from other files. It makes program writing a lot more enjoyable.

The compiler

Once you've written the program, you need to compile it. Turbo Modula 2 compiles quite quickly, though not as fast as its Pascal stablemate. Where it wins over Turbo Pascal, though, is in its facility to incorporate previously compiled modules of program, rather than having to compile everything each time a minor alteration is made.

Turbo Modula 2 can compile to 'M' code, which is a sort of half-way house between the program you write and machine-code, or go on to produce a faster machine-code file which can be run straight from CP/M. The advantage of using 'M' code, certainly while developing a program, is that it takes up much less room.

If the compiler finds an error in your program while it's compiling, it calls up the editor and positions the cursor at the offending point in the code. Once you've fixed the problem, the compiler starts up again from just before the error. In short, alot has been done to make program development as easy as possible.

The programs

A program in Modula 2 consists of keywords, variable names, numbers and operators (like +,-,* and /). Many of the keywords themselves, however, are not included in the language! Modula 2 includes a basic set of commands, and any others are supplied in a 'library' of pre-defined modules. When you want to use a keyword out of one of these modules, you use the statement:

FROM modulename IMPORT keyword1, keyword2 etc

	Program 1 sec bytes	Program 2 sec bytes
Mallard BASIC	44 94	4 150
Turbo Modula 'M' code	16 56	4 92
Turbo Modula 'native' code	15 89	3 192
Turbo Modula COM file	13 <9728	2 <17024

▲ Comparison of BASIC and Modula 2 programs

```
MODULE Hello;
FROM Terminal IMPORT WriteChar,WriteString;
VAR
  I,J:CARDINAL;
BEGIN
  FOR J:=1 TO 100 DO
    FOR I:=32 TO 126 DO
      WriteChar(CHR(I));
    END;
  END;
  WriteString('Stop the clock');
END Hello.
```

```
10 DEFINT I
20 FOR J=1 TO 100
30 PRINT CHR$(I);
40 NEXT
50 NEXT
60 PRINT "Stop the clock"
70 END
```

▲ Program 1

```
MODULE TEST;
FROM Matblib IMPORT Sqrt;
VAR
  I:CARDINAL;
  J:REAL;
BEGIN
  J:=0.0;
  WRITE('START');
  FOR I:=1 TO 100 DO
    J:=J+1.0;
    J:=J*J;
    J:=Sqrt(J);
  END;
  WRITE(J);
  WRITE('Stop the clock');
END TEST.
```

```
10 DEFINT I
20 J=0
30 PRINT "START"
40 FOR I=1 TO 100
50 J=J+1
60 J=J*J
70 J=SQR(J)
80 NEXT
90 PRINT J
100 PRINT "Stop the clock"
110 END
```

▲ Program 2

This system means that the language can be extended simply by adding extra modules with the programs for specialist keywords in them. Clever, eh?

In the time available for review, it was only possible to test the compiler on fairly short programs, of which two of the shortest are listed here. You can see that there's a dramatic speed improvement even when writing characters on the screen, which is normally governed more by CP/M itself than by the programming language.

Verdict

If you liked Turbo Pascal, you'll love Turbo Modula 2. As well as the improvements in Modula over Pascal, the Turbo system has been enhanced to provide what must be the best programming environment in CP/M today.

EXIT

Interpret vs Compile

All computer programs run in machine-code. The difference in speed between Logo or BASIC (interpreted languages) and Modula 2 or C (compiled ones) is in how the instructions you write are converted into machine-code.

An interpreted language is one where each instruction is converted into machine code as the program runs.

A compiled language is one where the conversion is made once, before the program is run.

PLUSES

- ⊞ Good full-screen editor
- ⊞ Fast compiler with editor recall
- ⊞ Allows programming in modules
- ⊞ Close to Pascal - easy to convert

MINUSES

- ⊟ Manual is purely technical reference
- ⊟ Takes a while to get into

RANGE OF FEATURES ■■■■ PERFORMANCE ■■■■□
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cp software

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MAG MAGNET

LOGO SKETCHPAD

by Charles Hassell

Logo has been hailed as the ideal language for teaching, and it certainly has some advantages, but its use tends to be restricted to higher junior or secondary school children. This short set of logo routines creates a simple 'sketchpad', so even pre-school children can draw pictures on the PCW screen using a set of single-key commands.

The keys 1 to 8 turn the turtle to the eight points of the compass, key 9 'jumps' it forward by 50 units and key 0 'walks' it forward by the same amount, leaving a trail behind it. The other important keys are C, T, S, R and /, which all perform predefined tasks.

The C key draws a circle.

The T key draws an equilateral triangle with a side of 100 units.

The S key draws a square with a side of 100 units.

The R key draws a rectangle 100 by 50 units.

All these routines move to the right as they draw their figures.

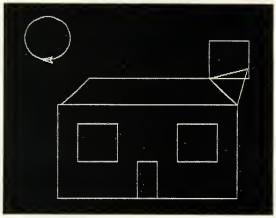
The / key clears the screen.

Just to confirm how caring and helpful we are, you'll find a key strip elsewhere on this page which you can cut out or photocopy and place above the number keys on the keyboard. The symbols should be self-explanatory and be a great help in using the sketchpad.

As you can see from the masterpiece created by the editor in under an hour, even the most simple-minded youngster can draw (sic) a great deal of enjoyment from these procedures.

```
to will
wrap
fs
cs
w
end
to w
make "z rc
if :z = 1 [seth 0]
if :z = 2 [seth 45]
if :z = 3 [seth 90]
if :z = 4 [seth 135]
if :z = 5 [seth 180]
if :z = 6 [seth 225]
if :z = 7 [seth 270]
if :z = 8 [seth 315]
if :z = 9 [pu fd 50 pd]
if :z = 0 [fd 50]
if :z = "r [rec]
if :z = "s [sq]
if :z = "t [tri]
if :z = "c [cir]
if :z = "/ [zap]
w
end
to sq
repeat 4 [fd 100 rt 90]
end
to cir
repeat 36 [fd 10 rt 10]
end
to tri
repeat 3 [fd 100 rt 120]
rt 30
end
to rec
repeat 2 [fd 100 rt 90 fd 50 rt 90]
end
to zap
cs
end
```

▼ The sketchpad procedures



▲ The editor's first attempt. A ship, perhaps?

Being such a fun-packed, information-rich publication as 8000 Plus can cause us considerable frustration. We know we've mentioned Supercomp's Fuzzblat game somewhere in the last six issues, but we'll be danged if we can find it when we want it. If we get like this, how much worse must it be for you poor souls, who have other things to do with your lives than to index magazines.

Now, at last, you can get your PCW to do part of the work for you (you always knew it could, didn't you?). Keith Gibson's indexing program will display any entries in its data file which contain the word or phrase you enter. It does this very fast, from a series of files it creates for itself on disc – one per month.

To create the data files, you simply follow the on-screen instructions and enter the relevant facts. You have to enter all the details for each month's magazines in one session, as if you try to add extra ones, you'll start to overwrite those already on file.

The program itself is rather longer than usual, so take it in stages and save it to disc periodically as you're entering it. The only confusion likely to arise is the hash character (#), which appears in the listing as a pound (£). This is a common problem, but as long as you remember that there are no pounds at all in the program, you shouldn't have any problems.

Unfortunately, you'll have to index the magazine yourself at the moment, though we are in the process of collecting together the most valued bits of 8000 Plus in a separate booklet, with an index.

Keith Gibson's magazine index can find articles from 8000 Plus in seconds.

▼ Entering details and making enquiries on the index

```
10 DIM file$(63)
20 GOSUB 700
30 PRINT"PROGRAM FOR INDEXING MAGAZINES":PRINT:PRINT
40 INPUT"Enter or Retrieve (E/R)";ans$: ans$=UPPER$(ans$)
50 IF ans$="E" THEN 120
60 IF ans$="R" THEN 470
70 PRINT"Answer 'E' or 'R'":GOTO 40
80 INPUT"Any more (Y/N)";ans$: ans$=UPPER$(ans$)
90 IF ans$="Y" THEN 40
100 PRINT: PRINT: PRINT: PRINT: PRINT "BYE!": END
110 :
120 REM ***INPUT SECTION***
130 GOSUB 700
140 PRINT"INPUTTING DATA": PRINT: PRINT
150 INPUT"Mag title (EI,YA, etc)    ";mag$: mag$=UPPER$(mag$)
160 INPUT"Year (e.g. 85)            ";year$: year$=UPPER$(year$)
170 INPUT"Month (e.g. FEB)          ";mon$: mon$=UPPER$(mon$): PRINT
180 file$=mag$+year$+mon$:n=1
190 IF FNDA("INDEX",n)=-1 THEN GOTO 250
200 OPEN"I",1,"INDEX"
210 WHILE NOT EOF(1)
220 INPUT #1,file$(n): n=n+1
230 WEND
240 CLOSE 1
250 OPEN "O",1,"INDEX"
260 file$(n)=file$
270 FOR x=1 TO n
280 WRITE #1,file$(x)
290 NEXT
300 CLOSE 1
310 OPEN"O",1,file$
320 INPUT"Feature title ";title$: title$=UPPER$(title$): PRINT
330 IF title$="XXX" THEN GOTO 440
340 IF title$=""THEN 320
350 title$=LEFT$(title$,30)
360 INPUT"     Contents ";cont$: cont$=UPPER$(cont$): PRINT
370 IF cont$=""THEN 360
380 INPUT"          Page ";page$: page$=UPPER$(page$): PRINT
390 IF page$=""THEN 380
400 cont$=LEFT$(cont$,40)
410 PRINT"If this is the last entry, type 'XXX' as the next title":PRINT:PRINT
420 WRITE #1,title$,cont$,page$
430 GOTO 320
440 CLOSE 1
450 GOTO 80
460 :
470 REM *** OUTPUT SECTION ***
480 PRINT
490 PRINT"RETRIEVING INFORMATION": PRINT
500 INPUT"Key word or phrase ";key$: key$=UPPER$(key$)
510 OPEN"I",1,"INDEX"
520 n=1
530 WHILE NOT EOF(1)
540 INPUT #1,file$(n):n=n+1
550 WEND
560 CLOSE 1
570 PRINT:PRINT "Ref";TAB(12)"Title";TAB(43);"Contents";TAB(85)"Page":x=1
580 FOR x=1 TO (n-1)
590 OPEN"I",1,file$(x)
600 WHILE NOT EOF(1)
610 INPUT #1,title$,cont$,page$
620 IF INSTR(title$,key$)>0 OR INSTR(cont$,key$)<>0 THEN PRINT LEFT$(file$(x),2
);" ";RIGHT$(file$(x),3);" ";MID$(file$(x),3,2);" "
;TAB(12);title$;TAB(43);cont$;TAB(85);page$: x=x+1: IF x>30 THEN INPUT"SCROLL? (Pre
ss ENTER)",ans$: ans$=UPPER$(ans$): x=1
630 WEND
640 CLOSE 1
650 NEXT
660 INPUT"More information (Y/N) ";ans$: ans$=UPPER$(ans$)
670 IF ans$="Y" THEN 500
680 PRINT: GOTO 80
690 :
700 REM *** SUB-ROUTINES ***
710 PRINT CHR$(27);"E";CHR$(27);"H";
720 RETURN
```

```
PROGRAM FOR INDEXING MAGAZINES - use caps throughout

Enter or Retrieve (E/R)? r

RETRIEVING INFORMATION

Key word or phrase ? logo

Ref        Title                    Contents                    Page
II DEC 86  TURTLE DOMOS             LOGO PRINTOUT               81 L
More information (Y/N) ? y
Key word or phrase ? printer

Ref        Title                    Contents                    Page
II NOV 86  TEXT TO PRINTER          CHANGING PRINT TO LPRINT    70 T
II DEC 86  NEW PRINTERS             BRIEFLY FOR PCW             7 N
II DEC 86  PRINTER EXTENSION LEAD   ACCESSORY FOR PCW           8 N
II DEC 86  PRINTING WITH CONFIDENCE PRINTER CONTROLS IN CP/M ('ESC' &C) 25
II DEC 86  NON-STANDARD PRINTERS    TO SWITCH USING BASIC       61 T
More information (Y/N) ? y
Key word or phrase ? cover

Ref        Title                    Contents                    Page
II NOV 86  MELTING AMSTRAD          COVER PICTURE INFO          5 E
II DEC 86  DEAFENING SILENCE        ACOUSTIC COVER FOR PCW      7 N
II DEC 86  DUST COVERS              AND CARRYING CASES          8 N
More information (Y/N) ? N


INPUTTING DATA

Mag title (EI,YA, etc)   ? ei
Year (e.g. 85)           ? 87
Month (e.g. FEB)         ? mar

Feature title ? program

     Contents ? cataloguing magazine contents

          Page ? 56

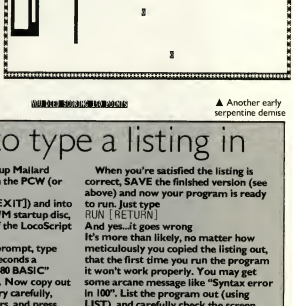
If this is the last entry, type 'XXX' as the next title

Feature title ? _
```

▲ The magazine index listing

```
10 FOR f=1 TO 30: PRINT: NEXT: PRINT CHR$(27);CHR$(112)
20 DIM a$(32,60): a=10: b=10: f=150: d=1: a=20: b=20: PRINT CHR$(27);"["
30 DEF FNatt$(X,Y)=CHR$(27);"Y"+CHR$(32+x)+CHR$(32+y): FOR b=1 TO 80
40 PRINT FNatt$(0,b);"*";FNatt$(25,b);"*": a$(0,b)="3": a$(25,b)="3": NEXT
50 FOR g=0 TO 25: PRINT FNatt$(g,0);"*";FNatt$(g,80);"*":a$(g,0)="3": NEXT
60 PRINT FNatt$(a,b);" ": a$(a,b)="1"
70 a$=INKEY$:IF a$="q" THEN d=1 ELSE IF a$="a" THEN d=2
80 PRINT FNatt$(29,10);">>>>>>FOOD<<";fu;"<<<<<<"
90 IF a$="p" THEN d=3 ELSE IF a$="o" THEN d=4
100 IF d=1 THEN a=a-1 ELSE IF d=2 THEN a=a+1
110 IF d=3 THEN b=b+1 ELSE IF d=4 THEN b=b-1
120 IF a$(a,b)="1" OR a$(a,b)="3" THEN fu=1 ELSE b=80 THEN GOTO 170
130 IF a$(a,b)="2" THEN fu=fu+30: PRINT FNatt$(29,0);CHR$(7)
140 fu=fu-1: z=INT(RND*24)+1: x=INT(RND*78)+1
150 IF k<30 THEN k=0: score=score+3: PRINT FNatt$(z,x);".": a$(z,x)="2"
160 k=k+1: GOTO 60
170 PRINT FNatt$(29,0);"YOU DIED SCORING";score;"POINTS"
180 FOR j=1 TO 2000: NEXT: RUN
```

▲ The 'Snakey' listing



▲ Another early serpentine demise

How to type a listing in

The first thing is to load up Mallard Basic. To do this, turn on the PCW (or reset it with [SHIFT]+[EXTRA]+[EXIT]) and into the top drive put the CP/M startup disc, which is the other side of the LocoScript startup disc.

When you get the A> prompt, type BASIC, **and after a few seconds a message about "Mallard BASIC" appears and it says "Ok". Now copy out each line in the listing very carefully, including the line numbers, and press [RETURN] at the end of each line. Be careful to distinguish between capital I and the digit** 1, **O and** 0, **and colons and semicolons. During a long listing it's important to save your work every 15 minutes or so. And for all listings you must save them for attempting to run them. To do this, find a work disc you can write to, put it in the disc drive, and type**
SAVE "PROGRAM" [RETURN]. **Or you can choose any other name instead of the word "program".**

When you've finished, type LIST [RETURN] **and the whole program will appear on the screen. Check it, and if any lines are wrong, you can correct them with the line editor. For example, if the mistake was in line 100, you would type** EDIT 100 [RETURN], **and use the cursor keys and delete keys to fix the line. Press [RETURN] when the line is correct.**

If you have mistyped a line number, so that a line appears in the wrong sequence, just type the incorrect line number and the [RETURN], which effectively deletes the line, then retype the line with its correct number.

When you're satisfied the listing is correct, SAVE the finished version (see above) and now your program is ready to run. Just type
RUN [RETURN]
And yes...it goes wrong
It's more than likely, no matter how meticulously you copied the listing out, that the first time you run the program it won't work properly. You may get some arcane message like "Syntax error in 100". List the program out (using LIST), and carefully check the screen against the original in the magazine.

Incidentally apart from Syntax errors, the line number mentioned in the error message isn't necessarily where the error is located – it's simply the point at which the computer gets stuck. You may have to look elsewhere for the error.

When you've found it, either retype the line wholesale, or correct it by using the line editor as described above. Type RUN **again, and hopefully it works this time. If not, go on correcting and re-running until it does. Finally, don't forget to save the corrected version again.**

When you've finally finished with the program, typing
SYSTEM [RETURN] **returns you to CP/M.**

To run the program another day, start BASIC up normally, put the disc you saved the program on in the drive and type
LOAD "PROGRAM" [RETURN] **or whatever name you gave the program when you saved it. Then as before, when it says Ok, type**
RUN [RETURN].

SNAKEY

by David Collinson

Now for a bit of light relief. What must be one of the world's shortest game programs comes to the PCW. Type in the listing as it appears (there are no 'L's in it, so there shouldn't be much confusion), save it and then type RUN.

The idea of the game is to guide the snake around the screen over the small inverted 'o's, which act as food. You mustn't hit the borders of the screen, or another part of the snake itself, and if the 'food counter' reaches zero before you bite into the next succulent 'o', you bite the less succulent dust instead. The game's great fun and very addictive. You may send in your high scores, though we don't guarantee to do anything sensible with them.

The controls are 'Q' and 'A' for up and down, and 'O' and 'P' for left and right.

LOGO CLOCK 2

by Michael Hailstone

If you saw our January issue, you might have been taken with the Logo clock, which ticks away on the screen for the cost a few minutes finger tapping. Michael Hailstone saw it and liked it so much he bought the magazine. being a perfectionist, though, he thought he could make a few improvements, so here is version 2.

The improvements are as follows:

1. You now set the time as hours and minutes, rather than headings for the hands in degrees.
2. The hour hand moves correctly between each hour setting as the minute hand moves round the clock face.
3. Superfluous text is removed from the screen.
4. The clock keeps accurate time (better than 30 seconds in two hours).
5. By changing the delay at the end of the 'clock' procedure from 4420 to 19, you can turn the clock into a stopwatch, measuring minutes and seconds.

```
to clock
seth :mh pe fd 70
pu home
make "mh :mh + 6
pd seth :mh fd 70
pu home
seth :hh pe fd 40
pu home
make "hh :hh + 0.5
pd seth :hh fd 40
pu home
delay 4420
end
to start
ht
setsplit 6
pu home pd
face
hands
repeat 720 [clock]
end
to face
cs repeat 12 [line]
end
to line
pu fd 80 pd
fd 40 pu bk 120
rt 30
end
to hands
pr [enter minute hand reading]
pr [then hit RETURN]
make "mh item 1 rl
make "mh :mh * 6 - 6
make "qq :mh / 360
pr [now the hour hand heading]
make "hh item 1 rl
make "tt :hh + :qq
make "hh :tt * 30
ct
end
to delay :tick
repeat :tick [pu pd]
end
```

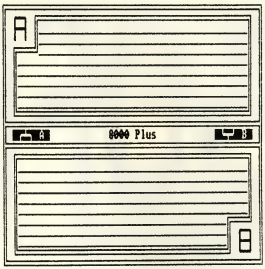
◀ The improved clock procedures

LABEL MAKER

by Carrick Thomson

Do you envy those sweet little Amsoft labels on your CF2 discs? Well now you can go one better and produce your own personalised version. Type in the program, taking care with the spacings and the numbers, save it to disc and RUN it. The label will be drawn on the screen, and with deft use of the [EXTRA] and [PTR] keys you'll be able to transfer as many as you like of them onto paper.

Now comes the tricky bit. You'll have to cut each one out, apply glue and stick it around the end of your disc. What an end result, though!



◀ A label fit for a 3" disc

▼ The label-making listing

```
10 c1$=CHR$(133): c2$=CHR$(134): c3$=CHR$(137): c4$=CHR$(138)
20 c5$=CHR$(140): c6$=CHR$(145): c7$=CHR$(150): c8$=CHR$(151)
30 c9$=CHR$(154): c10$=CHR$(155): c11$=CHR$(156): c12$=CHR$(157)
40 DEF FN on$=CHR$(27)+CHR$(112)
50 DEF FN off$=CHR$(27)+CHR$(113)
60 INPUT"Name for spine ";a$
70 IF LEN(a$)=31 THEN GOTO 100 ELSE a$=" "+a$+" "
80 IF LEN(a$)>31 THEN a$=LEFT$(a$,LEN(a$)-1):GOTO 100
90 GOTO 70
100 PRINT c2$STRING$(47,c4$)c5$
110 PRINT c1$" "c7$c9$c11$" "c2$STRING$(39,c4$)c5$" "c1$
120 PRINT c1$" "c8$c9$c12$" "c1$STRING$(39,"_")c1$" "c1$
130 PRINT c1$" "c6$" "c6$" "c1$STRING$(39,"_")c1$" "c1$
140 PRINT c1$" "c2$STRING$(3,c4$)c3$STRING$(39,"_")c1$" "c1$
150 FOR t=1 TO 5: PRINT c1$" "c1$STRING$(43,"_")c1$" "c1$: NEXT
160 PRINT c1$" "CHR$(131)STRING$(43,c4$)c3$" "c1$
170 PRINT CHR$(135)STRING$(47,c4$)CHR$(141)
180 PRINT c1$" "FN on$" "c7$c10$c11$" A " FN off$ a$ FN on$" "CHR$(147)CHR$(158)
CHR$(153)" B "FN off$ " "c1$
190 PRINT CHR$(135)STRING$(47,c4$)CHR$(141)
200 PRINT c1$" "c2$STRING$(43,c4$)c5$" "c1$
210 FOR t=1 TO 5: PRINT c1$" "c1$STRING$(43,"_")c1$" "c1$: NEXT
220 PRINT c1$" "c1$STRING$(39,"_")c2$STRING$(3,c4$)c3$" "c1$
230 PRINT c1$" "c1$STRING$(39,"_")c1$" "c7$c9$c11$" "c1$
240 PRINT c1$" "c1$STRING$(39,"_")c1$" "c8$c9$c12$" "c1$
250 PRINT c1$" "CHR$(131)STRING$(39,c4$)c3$" "CHR$(147)c9$CHR$(153)" "c1$
260 PRINT CHR$(131)STRING$(47,c4$)c3$
270 FOR t=1 TO 4: PRINT: NEXT
```

The saga of Thomas Sykes' calendar listing continues, with these modifications from Andrew Cauthery, which take care of the Leap Century rule! Lines 140 and 170 should read:

```
140 L=Y+12+(Y+3)\4-(Y-1)\100+(Y-1)\400
170 READ M$(C) : READ M(C) :
IF (Y MOD 4=0) AND NOT ((Y MOD 100=0)
AND (Y MOD 400<>0)) THEN M(2)=1
```

For similar reasons, you should add the following to the end of line 50 in the day of birth program:

```
IF C MOD 4=0 AND B<3 THEN D=D-1 :
IF C=0 THEN D=D+1
```

The 'star' listing in the Logo feature in our January issue got scalpelled around the pretty graphic. Lines three, four and five of the procedure should be typed in as one, without any [RETURN]s in there, the 'anystar' procedure needs a colon (:) before 'points' in the first and second lines, and again line 3 should be attached to the end of the previous line.

Can YOU program?

If so, you could earn hard cash (£10-100) and instant fame by having your programs printed in this magazine. We're interested in SHORT programs of GENERAL INTEREST: utilities, graphics games and the like.

Programs of 1 to 20 lines are particularly likely to be printed (because we can manage several in an issue) – those that are longer have to be really good, so don't get carried away with lots of lines devoted to 'window-dressing' the program. Instructions can be given in accompanying documentation much more efficiently.

To submit a listing you must supply the following:

1. A printout of the listing.
2. A disc on which it is saved.
3. A stamped, addressed, padded bag for return of your disc.
4. An explanation of what the program does and how to use it.
5. A signed statement confirming that the program is your original work and hasn't been submitted to anyone else.

Send your submission to: *Listings, 8000 Plus, The Old Barn, Somerton, Somerset, TA11 7PY.*

Please allow up to 40 days for return of your disc – the programs will be assessed all in one batch once a month!

TIP-OFFS

The truth they didn't dare print: welcome to three more pages of what the manuals *don't* tell you.

The tips you've sent us this month range from helping touch-typists find the 'delete' key to a free LocoScript mailmerger (well, almost!). This month's prizewinners are C.A. Stanley of Mansfield in Notts, for his SuperCalc to LocoScript conversion, and Steve Gough of North Kensington, for his LocoScript brainwave.

If you have a treasured secret which helps you use your PCW or its software more easily, why not share it with a waiting world? We now pay £30 (yes, thirty) for the best tips each month – stake your claims to fortune by writing to us at: *TipOffs, 8000 Plus, The Old Barn, Somerton, Somerset TA11 7PY*.

The 64,000 file question

For those who haven't found out yet, one side of a 3" disc in the PCW's top drive can store a total of only 64 files at any time. This total is regardless of how much space is free on the disc, and which groups are used for the files. After this point, a message 'directory is full' appears, and you will have to delete some documents before you can store new ones on that disc.

I Toptani, London SW16

Safe copying

Occasionally, when you are copying a particularly long or important file from one disc to another, it would be nice to reassure yourself that it has indeed copied properly.

If you are using CP/M, you can use PIP's little known 'Verify' option to do just this. All you do is add [V] to the end of the PIP command, with no spaces before it. For example, PIP B:=A:BOOK.DOC[V] copies your new novel from drive A to drive B, and then verifies that it has gone OK.

SuperCalc to LocoScript

Spreadsheets can be very powerful tools for manipulating and presenting charts of data, and SuperCalc is widely used by PCW owners. One snag is that if you are writing formal reports, you need to be able to work the spreadsheet results into your text, but SuperCalc printouts are usually pretty bald tables.

Having spent many hours constructing the spreadsheet and entering the data, you may have been resorting to re-typing the results into LocoScript, making extensive use of the decimal tab facility. In fact, it is possible to transport your final results from SuperCalc2 into a LocoScript document, keeping the same layout as the spreadsheet used.

All that is necessary is as follows:

1. Finalise your layout in SuperCalc2 and turn off the borders display if this is not required on the final printout
2. Save the area you want to put in your LocoScript file, by 'Output'ing it to the disc, not by 'Save'ing it. To do this, use the commands `/ Output Display Disk`. This will create a file on the disc with a name you choose, for example 'yourname.prn'.
3. Start LocoScript up. The file created by SuperCalc must be copied onto the M drive: put the SuperCalc work disc in the drive, and use [f3] to copy it to a group on M.
4. Change back to your LocoScript work disc, and create the report document up to the point where you want the SuperCalc results to appear. Make sure you are not using proportional spacing.
5. If your spreadsheet data is more than 80 columns wide, you must set your margins wide enough to accommodate the total width, and your pitch to one which will allow the table to fit across the page (eg. 15 or 17 pitch). You can get up to 140 columns or so across an A4 sheet in 17 pitch.
6. Once you are all set with the correct layout, press [f7] and select the 'Insert Text' option. You will be faced with the Disc Management screen – highlight the SuperCalc2 file which you copied to the M drive, and press [ENTER] twice to do the text insertion.
7. Sit back with a smile of satisfaction as the SuperCalc2 display you saved is placed perfectly into your document.

CA Stanley, Mansfield

Cheap Mailmerge

LocoMail, the official mailmerger package for LocoScript, will set you back £39.95, but you can duplicate its 'Fill' command for free.

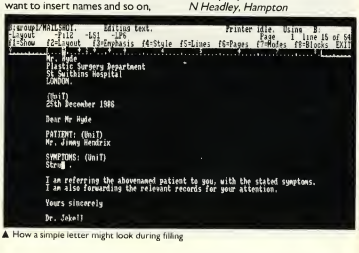
'Filling' is the process of going through a form letter inserting special lines such as names and addresses, although you do it by hand. Proper mailmerging takes the data from a file stored on disc. Filling is suitable for short mailshot runs, where it would be to much trouble to set up a data file for a full mailmerge.

So, with ordinary LocoScript, type the basic letter into a document. Place a 'Unit' marker by typing ⊡UT where you will later want to insert names and so on, and save the document when all set up.

To do the fill process, edit the file and press the [UNIT] key (which is [SHIFT]+[PARA]). The cursor now moves to the next 'unit' mark it finds, and you just type the relevant text to be inserted. Press [UNIT] again to get to the next mark, and so on until complete. Save the document, print and repeat.

A small catch is that when you put a 'unit' marker into your letter, it will end the line automatically as if you had typed the [RETURN] key. As a result, this method is best suited to marking the slots for addresses, dates and titles, where you want them to start on a new line anyway.

N Headley, Hampton



▲ How a simple letter might look during filling

Blank lines in Cambase

One of the uses of the Cambase 'Processes' is to print out information from your database in any format you wish. However, even if you try to get the various fields to be printed on different lines, Cambase will always close up the printout so that there are no blank lines. This can be inconvenient for some applications, but if you are a little devious you will be able to trick Cambase into printing blanks out.

First, decide how many blank lines you are going to use. This is important as you will need to create a Variable for each blank, and you cannot use each variable more than once.

Next, from the main menu, choose 'Update Processes' and create a new Process. When presented with page 1 asking you for the Variable Types, type in 'c' for each of the variables you need. After each one you will be asked for the Title and Chars (number of characters). You can miss the title, and you have to enter at least 1 for the number of characters. From now on, continue to set up the process as you would normally for your printout.

The final section is the one where you decide which fields you want to go where on the printout. It is here you use the variables you created to get blank lines. Suppose you had a list of names and addresses of customers with the amounts they owe, and you wanted to get a printout like the one shown – normally, Cambase wouldn't let you leave lines 2 and 6 blank.

In the section titled Output Item 1, insert F1 as the first item to be printed on line 1, and also the data in the columns you wish. Then for Output item 2, insert V1 (the first variable), and place this on line 2. This is your blank line. F2 can be Output Item 3 on line 3, and so on. Variable V2 will be the next blank line, on Output Item 6 (see the screen shot).

If there are more fields and blank lines, continue in this way, using a different variable for each blank line – if you use the same one, Cambase ignores the first use of that variable. When finished, type 'e' as the next Output Item, and 'e' again in the final page Total of Item. Create the process and EXIT from the Create Process section.

Now this is where you trick Cambase. Select Update Processes from the main menu, and choose Amend Processes from the sub-menu. Pick the process you have just created and amend that. When you get to page 1 with the variables on, edit each one very carefully: before editing, you will notice that the number of characters is 1 (see screen shot). To edit, move down the cursor to highlight Variable Type 1, press [RETURN], re-enter the letter C and press [RETURN] again.

You will notice that the other information relating to that variable has changed, and the number of characters is now registering zero. Carefully move the cursor past the titles and onto the Variable Type 2. Repeat for all the variables you have created. when you have finished, you should have the number of characters set to zero for all your variables. If the rest of your process is correct, press [f3] to amend the process and then EXIT to the main menu.

Now when you select Run Processes from the main menu and run the newly-created process on one of your files, you should find that you have blank lines.

Charles Hassell, London SW12

```
Line 1    Name          Fred Bloggs                    [Field 1 (F1)]
Line 2 (blank)
Line 3    Address       131 St Olaves Street           [Field 2 (F2)]
Line 4                  Bristol                        [Field 3 (F3)]
Line 5                  England                        [Field 4 (F4)]
Line 6 (blank)
Line 7    Amount due: £1200                            [Field 8 (F8)]
Line 8 (blank)
```

▲ The desired form of the printout, with blank lines

```
'86 Cambase Database        Amend  Processes   00354158   12 DEC 86  Page  4

   Label Print?      N
   Print as update?  N    Print Controls NO        Print new page?  N

   Output Item    1 F1     Line   1    Title @ col   0    Data @ col  5
   Output Item    2 V1     Line   2    Title @ col   0    Data @ col  5
   Output Item    3 F2     Line   3    Title @ col   0    Data @ col  5
   Output Item    4 F3     Line   4    Title @ col   0    Data @ col  5
   Output Item    5 F4     Line   5    Title @ col   0    Data @ col  5
   Output Item    6 V2     Line   6    Title @ col   0    Data @ col  5
   Output Item    7 F8     Line   7    Title @ col   0    Data @ col  5
   Output Item    8 V3     Line   8    Title @ col   0    Data @ col  5
   Output Item    9 X
   Output Item   10 X
```

▲ The required Cambase process to get this format

```
'86 Cambase Database        Amend  Processes   00354158   12 DEC 86  Page  1

   Process Title test                    Filespec Number 1

   Variable Type  1 C    Title                        Chars  1
   Variable Type  2 C    Title                        Chars  1
   Variable Type  3 C    Title                        Chars  1
   Variable Type  4 X
   Variable Type  5 X
   Variable Type  6 X
   Variable Type  7 X
   Variable Type  8 X
```

▲ Before the Variable editing ... and after ▼

```
'86 Cambase Database        Amend  Processes   00354158   12 DEC 86  Page  1

   Process Title test                    Filespec Number 1

   Variable Type  1 C    Title                        Chars  0
   Variable Type  2 C    [FERC                        Chars  0
   Variable Type  3 C    Title                        Chars  1
   Variable Type  4 X
   Variable Type  5 X
   Variable Type  6 X
```

Marking italic text

Have you ever written a long letter and printed it out only to find you have to revise and reprint the whole thing because you forgot to cancel an Italic or Bold command?

Unlike underlining, LocoScript does not show you on the screen when text is in italic or bold, and even if you have switched on the option to Show the codes you can easily forget to turn the effect off on long passages.

All very irritating. But thanks to the 'phrase' memory's capacity to store codes as well as characters, you can devise the perfect Heath Robinson solution. Create a phrase which contains the codes (+Italic) followed by (+Reverse Video); pasting the phrase will call up both italic, and a visual reference (the reverse video) which you cannot miss but which doesn't affect the printing.

Another phrase containing (-Italic)(-Reverse Video) can be created and pasted in to cancel both effects. A similar process can be used to show Bold or Double strike passages on the screen.

Since phrases are stored by an alphabet character, you can now turn italics on by [PASTE] h, hardly any different from the [B] you normally use. And it saves you time and trouble in proof reading and correcting.

Steve Gough, London W10

```
F:group/LATIX MUM        Editing text.              Printer Idle.  Using  B:M.
Layout     -F112    -L11   -LP6                                Page   1  Line 11 of 56
F1=Show   f2=Layout   f3=Emphasis  f4=Style  f5=Lines  f6=Pages  f7=Modes  f8=Blocks  EXIT
..........T.....1.....2.....3.....4.....5.....6.....7.....8.....9.....0.....1.....2.....

   When you look at the screen in LocoScript, words that are underlined are
   already shown, but not those in italic or bold. This can cause trouble
   at the printing stage if you forget to turn the codes off.

   But by using [PASTE]X instead of [+I], and [PASTE]X for [-I], phrases in
   italics are instantly visible like that one.  The same goes for bold
   [+B].
```

▲ A typical LocoScript screen – italic and bold sections are now highlighted to be seen easily

Cancelling Autostarts

If you've managed to make up autostart discs for your CP/M applications, you know how to transfer files to the M drive and run programs automatically. However, you may at times want to run CP/M without the autostart process, and be frustrated to have to watch while files you don't want to use are shunted around.

Before you put your startup disc in the drive, flick the write-protect tab so the disc is protected. When the autoboot process tries to start, an error will happen – choose 'C' for Cancel when prompted, and you are at the normal CP/M prompt.

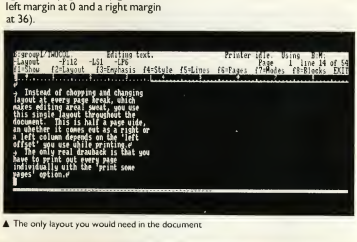
Garry Harwood, Lytham St. Annes

More on multicolumn LocoScript

A tip published in issue 4 explains how to get two-column print from LocoScript, by setting up half-width columns and changing Layouts every page.

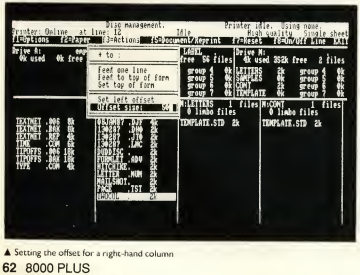
This works, but makes editing the file very tedious since you have to move all the layouts around if you insert or delete any lines – also it royally confuses the AnsibleIndeX program. An alternative way is to use a single layout for the whole document, again half a page wide (eg. with a left margin at 0 and a right margin at 36).

To get two column print, you just change the 'left offset' of the page, using the [PTR] and [f3] keys, prior to printing a page. An offset of 10 prints the left half of the page, and an offset of 50 prints the right half on the same sheet. Admittedly you have to print every page separately with the 'Print some pages' option of the print menu, but editing the document is quite straightforward – no messing with continual layout changes.
Eric Fenster, Oxford



▲ The only layout you would need in the document

▲ Printing a single page



▲ Setting the offset for a right-hand column

SHELL and the cursor keys

SHELL is a friendly little utility program which many 8000 Plus subscribers will have. It puts up a menu of all your files on the screen, and allows you to run programs without having to use CP/M directly.

However, there is one problem which can be an obstacle. SHELL resets the cursor keys for its own use, with the result that if you run BASIC, for instance, you can't use the cursor keys to edit lines.

There is no simple way to make the cursor keys work properly in a program run from SHELL, but there are ways around the problem. Firstly, the cursor keys are only synonyms for other keys. For example, the PCW normally sees [ALT]+A (hold down [ALT] then press A) as exactly the same thing as the ← key. In BASIC, and other programs which use the standard PCW key settings:

for ↑ type [ALT]+_
for ← type [ALT]+A
for → type [ALT]+F
for ↓ type [ALT]+;

If you find this a bit messy, there is one other option. Using RPED, create a file called 'CURSOR.KYS' containing the following lines:

```
14E"↑!#91'"
15E"↑!#93'"
06E"↑!#94'"
79E"↑!#96'"
```

Now, before you run SHELL, get the file SETKEYS.COM from your CP/M master disc onto your work disc, and type SETKEYS CURSOR.KYS. From now on, as long as you hold the [EXTRA] key down while you use them, the cursor keys will work normally after you have run SHELL.

Remember that programs like WordStar do not use the standard key definitions, but redefine the keyboard. This method won't work for them, but the manual will tell you which key combinations duplicate the cursor key functions.

Touch typing help

If you are a touch typist, the bane of your life is changing to a new keyboard, where all the non-standard keys are in different places. In particular, the 'delete' key never seems to be in the same place on different computers.

So try this. Take a piece of sticky-back velcro strip, cut a small square of it and stick it over the [←DEL] key. This way, your wandering digit finds the key first time instead of fifth, and you can keep you head up all the way.
Roland Lubett, Reading

Quickfire BASIC

The suggested way of loading or running BASIC programs is to type BASIC at the CP/M A>> prompt, wait for the system to get ready and say 'Ok', then to type RUN "WRDCOUNT", or whatever your program is called.

There is a quick way of doing both these in one. Provided your program is on the same disc as BASIC.COM, just type from CP/M BASIC WRDCOUNT (note there are no quote marks), BASIC will start and run the program WRDCOUNT.BAS automatically. When the program finishes, you will be returned to CP/M instead of the BASIC prompt.

Instant references

When creating a label printing file you will probably not use all the lines on the printed label. Define a short page length and have one label per page, then reserve a line for a footer which can be:
(□RJust)(□PageNo)===
Each label will then be printed with its page number on the bottom, which you can use as a reference number for that addressee.

Since the reference number is the same as the page number of the label in the address list document, you can selectively print out specified addresses by the single 'Print some pages' option of the LocoScript print command and choosing the numbers you require.
CG Smith, Leyburn

Sorting Cardbox files

A correspondent in the November 8000 Plus was advised to buy another database in order to alphabetically sort Cardbox files. She needn't, since there are 'public domain' programs which will do the job just as well.

If you 'WRite' a WordStar mode file from within Cardbox, you will get the records output to disc in their usual unsorted order. The program SORTV13.COM can then be used to order the records, which can then be used as input to Wordstar for mailmerging, or be printed out directly, or (with a little manipulation) read back into Cardbox to form a new, sorted, database.

Unsorted Cardbox sufferers should send an SAE to the PD Software Library, Winscombe House, Beacon Road, Crowborough, Sussex TN6 1UL for information.
S Ludlam, University of Sheffield EXIT

MASTERFILE 8000

FOR ALL AMSTRAD PCW COMPUTERS

MASTERFILE **8000**, the subject of so many enquiries, is now available.

MASTERFILE **8000** is a totally new database product. While drawing on the best features of the CPC versions, it has been designed specifically for the PCW range. The resulting combination of control and power is a delight to use.

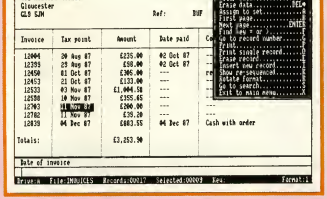
Other products offer a choice between fast but limited-capacity RAM files, and large-capacity but cumbersome fixed-length, direct-access disc files. MASTERFILE **8000** and the PCW RAM disc combine to offer high capacity with fast access to variable-length data. File capacity is limited only by the size of your RAM disc.

A MASTERFILE hallmark is the provision of multiple, user-designed display formats. This flexibility remains, but now it's even easier. With MASTERFILE **8000** you design your formats "live"; no more questionnaires, just move your format effects around the screen using the cursor keys!

Record updating is even easier than before — just steer your cursor to any field on the screen and then insert/erase/alter as required.

Special options are provided for handling dates and surnames, and column totals can be generated.

All screen work is done graphically — and hence we offer unique panel, box, and ruled line options. Choose the line spacing at pixel resolution — you will be amazed how much clearer 9-pixel lines are than the usual 8-pixels. (Study the picture.) And all this faster than CP/M normally lets you paint the screen! PCW printer functions, under menu control, are provided.

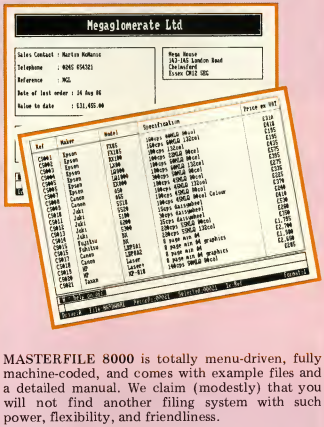


Keyed files are maintained automatically in key sequence, with never any need to sort. You can have unkeyed files too, where records can be inserted at any point in the file.

Any file can make RELATIONAL references to up to EIGHT read-only keyed files, the linkage being effected purely by the use of matching file and data names.

You can import/merge ASCII files (e.g. from MASTERFILE III), or export any data (e.g. to a word-processor), and merge files. For keyed files this is a true merge, not just an append operation. By virtue of export and re-import you can make a copy of a file in another key sequence. New data fields can be added at any time.

File searches combine flexibility with speed. (MASTERFILE **8000** usually waits for you, not the other way around.) You can even assign subsets of a file into one or more of seven pigeon-holes for subsequent reference or further manipulation.



MASTERFILE **8000** is totally menu-driven, fully machine-coded, and comes with example files and a detailed manual. We claim (modestly) that you will not find another filing system with such power, flexibility, and friendliness.

MASTERFILE **8000** costs £49.95 including VAT and P&P to anywhere in Europe. Elsewhere please add 20% for air-mail service. ACCESS/VISA/MASTERCARD orders are welcome, written or telephoned, quoting card expiry date. Make cheques payable to "Campbell Systems".

Our normal response is return of post, 1st class.

CAMPBELL SYSTEMS (Dept 8PL)
7 Station Road, EPPING, Essex CM16 4HA,
England. Tel: (0378) 77762/3

P.D. PLUS

Not £50. Not £30. Not even £20. To you, just the cost of a disc. Frank Peters starts a regular look at software in the Public Domain.

NSWP2

NSWP2 (an abbreviation for New Sweep 2) is a new version of SWEEP by Dave Rand of Alberta, Canada. This 12K program replaces many CP/M Plus utilities with one menu-driven program, saving disc space, time and effort, and leaving more time to get on with your work, rather than have to sit at the keyboard running one utility after another.

I run a PCW8256 and have to transfer over 25 files from a back-up disc into the RAM disc every night for use with the bulletin board I run. With PIP this would be a time consuming task requiring much key bashing and nashing of teeth, particularly if there is insufficient space on the disc to make the transfer in the first place. NSWP2 allows you to 'look ahead', with the tap of just a couple of keys, to make sure there's room available. The ability to tag files, and to transfer them en masse is also extremely useful.

NSWP2 is a lot more versatile than PIP. For example, try copying a file with PIP from one user area to another on the same disc, but keeping the same filename! It's awkward to have to type in all those file names, and keep changing user areas. With NSWP2 you simply type:

NSWP2 A*:*.*

and have all the relevant files displayed before you. You can move a cursor through the filenames by pressing the space bar or [RETURN], while pressing T 'tags' the current filename. You press M to 'mass' copy all tagged files, and a final couple of characters to determine the destination drive and user area, eg M0 for user area 0 on drive M:.

File copying is only one NSWP2's abilities, though. The program can also squeeze and unsqueeze files, and rename, delete, view and print both ASCII and WordStar text. Last, but by no means least, NSWP2 can set and reset Read Only, System, Archive and up to 4 user 'flags' on each file. This is particularly useful when backing up your discs.

Putting the squeeze on

The process of reducing a file in size is called squeezing and, naturally, unsqueezing is the return to its original state. Using this technique, you can reduce files by up to 60%. It's widely used on bulletin boards because shorter files take less time to transmit down the phone lines and less space on back up discs.

Read 'em, cowboy

The ability to read ASCII text files, like those produced with RPED or by taking an ASCII copy from LocoScript, is nothing special. The CP/M command TYPE works fine with ordinary ASCII text files. Text files written with Wordstar or Newword, though, will contain special codes for text formatting which make a TYPEd copy almost unreadable. NSWP2 reads WordStar/NewWord files quite normally and is a lot quicker to use than either word processor. It will print the files out, too!

What if it was not just Wordstar format but squeezed as well? No problems; NSWP2 will unsqueeze and display (or print) the original file.

A very good example of the usefulness of this is a Wordstar document in the Public Domain that is 175K long. It won't fit on one side of an A: drive disc. However the file is only 113k squeezed and can be safely stored away on one side of such a disc. Any time I need a copy on the printer, or need to look at the file, I just use NSWP to view it. No need to unsqueeze it first, or to load Newword!

Employing NSWP2

When you start NSWP, you're presented with a menu of the selected drive and user area, the amount of space taken by files, and how much space is left on the disk. For example:

A>NSWP2 M*

would produce,

Drive M*.????????.??? 121k in 31 files. 242k free.

Here, you've selected all user areas of the RAM disc, and are about to have displayed all the files on that disc, (????????.???). Below this heading, allthe files are displayed in alphanumerical order in a vertical column, something like this:

1. M0: ADDNULLS.COM 2k :
2. M3: NEWCHARS.COM 2k :
3. M1: TYPE1 .COM 1K :

The cursor starts at the end of the first line, requesting a command. Here is a list of the available commands, as displayed by the ? (help) command:

A - Retag files	Q - Squeeze/Unsqueeze tagged files
B - Back one file	R - Rename file(s)
C - Copy file	S - Check remaining space
D - Delete file	T - Tag file for transfer
E - Erase T/U files	U - Untag file
F - Find file	V - View file
L - Log new disk/user	W - Wildcard tag of files
M - Mass file copy	Y - Set file status
P - Print file	? - Display this help
X - Exit to CP/M	cr, sp - Forward one file

I have only scratched the surface of this very useful utility from the Public Domain. The document file that goes with the program is both well written and has many easy to follow examples of all its capabilities. So what are you waiting for!

Where to go

If you want to hold of Public Domain software, there are three sources which may interest you.

The CP/M User Group publishes a quarterly newsletter and runs a vast software library, though not all of it will be of interest to PCW users. There is a subscription and a copying fee per disc. Write for details to: The Secretary, CP/M User Group, 72 Mill Road, Hawley, Dartford, Kent DA2 7RZ. Please enclose a large SAE.

PD Software have a large range of public domain programs, for CP/M and other operating systems, and again make charges for membership and disc copying. Contact them at: PD Software, Winscombe House, Beacon Road, Crowborough, East Sussex TN6 1UL.

If you have a modem, you can download software from two bulletin boards (among others). The numbers are 0462 700893, which is active from 10 p.m. to 8 a.m. each night, and 0902 788683, from 5:30 to 8:00 morning and evening.

THE GOOD SOFTWARE FILE

These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Databases, Graphics packages and Communications software to face the ultimate test. We've set out to cover every piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for you.

As well as a brief summary of what they do, the main Plus and Minus points for each program are listed. Those we think are particularly noteworthy have an eliptical flash on them ... have fun window shopping!

DATABASES

There are broadly two different types of database, and which suits you best depends, of course, on what you want it for.

Firstly there's the simple card index substitute. For many home users, this will be the kind of thing you want – all it does is store your address book or stock items so that you can easily look them up.

A more sophisticated option is the programmable database. With these, in addition to allowing simple card index retrieval there is a command language which allows you to analyse the data on the cards. For example, you could automatically add up the money owed to you by all your customers from Yorkshire. To make best use of this kind of facility, you will need to be able to understand a little programming, although it's not too hard really.

A bit of jargon now. A database is said to consist of *records* – this is just like a card in a conventional card file, with all someone's details on it. Each record is composed of *fields* – a field is a single entry on a card, like someone's name, or age, or postcode.

The thing that makes a database special is an *index*. You might be able to hold your address book as a simple list in a word processor document, but if it gets large then this becomes unwieldy. An index means that the database has worked out which order records should be in, so it can go straight to the one you want without looking at lots of others first.

The field that you use as your index (e.g. someone's surname) is said to be a *key field*, and can be looked up very fast compared to "non-key" fields. A good database will allow *multiple keys*, meaning that it can look up data just as fast for a variety of types of information.

First Base

£29.95 • Minerva • 0392 37756 — *SIMPLE & GOOD VALUE*

Billed as a simple database for the first time user, First Base is quite a competent cheap card index. The manual is computer printed, and weak on diagrams which doesn't help things. Orle weakness is getting printed results out of First Base - - either you settle for crude lists, or you have to create a template in LocoScript which is awkward to do. But overall, for simple applications and beginners, it's pretty good value for money.

PLUSES • MINUSES

- ⊞ Can alter the index field at any time
- ⊞ Simple to use screen editing make data entry easy
- ⊞ Good value as a simple card index lookup system
- ⊞ Can easily browse through the database picking out a set by hand
- ⊟ Manual is badly laid out and generally difficult
- ⊟ Producing printed output is awkward

Database Manager (At Last)

£29.95 • Rational Solutions/Adv. Soft. Proms. • 0279 412441 — *POWERFUL & GREAT VALUE*

Recently re-released with a new manual and a new price, At Last is a full-featured database that is excellent value for money. It does what Cardbox can, with much better reporting facilities, and can sort too. You can do simple totalling of columns, but not general arithmetic on fields in a record. Its claims to be a true 'relational' database like dBase II are a little grandiose, but a good general purpose database - - recommended.

PLUSES • MINUSES

- ⊞ The basic form layouts are generated automatically
- ⊞ The data can be indexed on more than one item
- ⊞ Good screen editing facilities
- ⊞ Printed reports can include totals
- ⊞ Generally clear 70-page manual
- ⊞ Subsets of records can be selected using sophisticated rules
- ⊞ Manual sometimes lapses into computerese
- ⊟ Page dimensions have to be specified every time you want to list things, even to the screen
- ⊟ Can't do general arithmetic within fields

Cambase

£49.95 • Camsoft • 0766 831878

Cambase is very strong on data security - you can define passwords to protect sensitive databases. It is driven by quite an intricate set of menus, and you'll have to plan your application carefully since the database format can't be changed once set up. Generally good for writing applications with.

PLUSES • MINUSES

- ⊞ Sensitive data can be protected by a password system.
- ⊞ Record structure can be conditional - e.g. "only have a 'spouse' field if status is ' married"
- ⊞ "Processes" provide for some simple automatic calcuations
- ⊟ Over-protective user interface, which asks for confirmation of almost every command
- ⊟ Database main attributes are fixed after initialisation and can't be changed.
- ⊟ Doesn't have full screen editing of records
- ⊟ Manual needs an index, and is weak on explaining advanced topics
- ⊟ The (single) key field has to be entered separately to the record data proper

AMSTRAD PCW 8256/8512 and CPC6128

A PROCESS OF

WORD PROCESSING:TH

Are you 100% delighted with your Word Processor? Have you got any choice?

Well until now, perhaps not, but read on because we have some interesting facts for you.
We have tested some of the more popular word processors for the Amstrad PCW machines and we have presented a fairly comprehensive listing of our findings.
Use this information freely, before you decide on your next Word Processor.

A Comparison of Amstrad Word Processors

Benchmark timings

All tests were carried out on a standard 1817 word document. Tests 7 to 10 were carried out on a standard 262 word paragraph. All times are in seconds.

	Protext	Loco-script	Tasword 8000	Newword	Pocket Wordstar Deluxe
Version:	2.00	1.20	1.00	2.17	3.05
Computer:	PCW8256	PCW8256	PCW8256	PCW8256	PCW8256
1. Load document	6	12	8	18	10
2. Save document	7	84	19	13	19
3. Merge document to middle of itself	5	269	11	21	11
4. Move cursor from start to end	0.5	34	6	3	4
5. Move cursor from end to start	0.1	15	3	4	3
6. Replace 'the' with 'THE' 205 times	5	128	297	73	208
7. Format paragraph	1	10	12	6	6
8. Move paragraph to start	0.2	42	13	9	9
9. Move paragraph to end	1	80	13	9	4
10. Delete paragraph	0.3	19	3	5	4

"I am stunned by the speed at which Protext performs the text operation, there is nothing like it on the Amstrad" . . .*AMTIX MAGAZINE*

"Protext can thrash any 8 bit Word Processor for speed and can even cross swords with some 16 bit programs for power" . . .*POPULAR COMPUTING WEEKLY.*

PROTEXT WORD PROCESSOR

Q: So why is Protext so much faster than the competition?

A: Protext is the "state of the art" on the Amstrad computers. After two years of development, it is now widely recognised as the "new standard" by which other programs will be judged. Protext is not "just another conversion" from other computers but is a complete word processing system designed and written specifically for the Amstrad range. Protext makes full use of the available features on your machine, taking it further than ever before in many respects, by increasing the speed, power and performance, which until now, has not been thought possible. Protext is a fully integrated package complete with extensive mail-merge routines, spelling checker and disc utility programs.

But speed is not everything, so to be fair we should also show a summary of the main features. . . .

LocoScript is a trademark of Locomotive software Ltd, Tasword 8000 is a trademark of Tasman Software Ltd, NewWorda trade

F ELIMINATION

: THE FACTS EXPOSED

Feature comparison

FEATURES	Protext	Loco-script	Tasword 8000	Newword	Pocket Wordstar Deluxe
What you see is what you get	y	y	y	y	y
Works with any printer	y	-	y	y	y
Unlimited file size	y	y	-	y	y
Two file editing	y	-	-	-	-
Auto re-format	y	y	y	-	-
Layout commands stored in text	y	y	-	y	y
Spelling checker	y	-	-	y	y
Spell check from within WP	y	-	-	-	y
Find/anagram options	y	-	-	y	-
Background printing	y	y	-	-	y
Insert or overtype	y	-	y	y	y
Delete line command	y	-	y	y	y
On screen help	y	y	-	y	y
Dynamic screen update	y	y	-	-	-
Headers and footers	y	y	-	y	y
- different even and odd	y	y	-	y	y
Soft hyphens	y	y	-	y	y
Soft spaces/returns	y	y	-	y	y
Non break space	y	y	-	y	y
Decimal tabs	y	y	y	y	y
Format whole document	y	-	-	-	-
Page break indication	y	y	y	y	y
Page/line number display	y	y	y	y	y
Column manipulation	y	-	-	y	y
Column replace mode	y	-	-	y	-
Multiple block buffers	-	y	-	-	-
Undelete block	y	-	-	y	-
Undelete line	y	-	y	y	-
Save block	y	y	-	y	y
Calculator	y	-	-	-	-
Print multiple copies	y	-	-	-	y
Print selected pages	y	y	-	y	y
Print block	y	-	y	-	-
Print to screen	y	-	-	y	y
Typewriter mode	y	y	-	-	-
Change printer at any time	y	-	-	y	y
Embedded printer codes	y	y	y	y	y
Print translated characters	y	-	y	-	-
Turn off printer code display	y	y	-	y	y
Display returns/tabs	y	y	-	-	-

FEATURES	Protext	Loco-script	Tasword 8000	Newword	Pocket Wordstar Deluxe
On screen underlining	-	y	-	-	-
Built in Foreign characters	y	y	-	-	-
Separate accents	y	y	-	-	-
Catalogue files	y	y	y	y	y
Delete file	y	y	y	y	y
Rename file	y	y	y	y	y
Copy file	y	y	-	y	y
Format disc	y	-	-	-	-
Type disc file	y	-	y	-	-
Auto file backup	y	y	y	y	y
Find/replace - wildcards	y	-	-	y	y
- selective or all	y	y	y	y	y
- ignore case or not	y	-	y	y	y
- search for any string	y	y	-	y	y
- search for control codes	y	-	-	y	y
- find nth occurrence	y	-	-	-	y
Mail merge - data from file	y	-	y	y	y
- data from keyboard	y	-	y	y	y
- re-usable variables	y	-	-	y	y
- string/substring expressions	y	-	-	-	-
- numeric arithmetic	y	-	-	-	-
- polymorphic operators	y	-	-	-	-
- multiple data files	y	-	-	-	-
Conditional printing	y	-	y	y	y
- nested	y	-	-	y	y
Repeat/until loops	y	-	-	-	-
Insert file whilst printing	y	-	-	y	y
Format whilst printing	y	-	-	y	y
Auto widow/orphan elimination	-	y	-	-	-
Keep lines together	-	y	-	-	-
Microspacing	y	y	-	y	y
Proportional spacing	y	y	-	-	-
Built in word count	y	-	y	-	-
Character count	y	-	y	-	y
Place markers	y	y	y	-	y
Comments within text	y	-	-	y	y
Program editing mode	y	-	-	y	y
Create ASCII file	y	y	y	y	y
File conversion utility	y	-	-	-	-
User definable keys/phrases	y	y	y	-	-

Arnor Ltd, September 1986

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The UPGRADE

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'Best Value D-I-Y memory upgrade"
"Best Value 3 inch second drive"

They Said: "For many users an upgrade will make a huge difference." "You can make your working life a good deal easier at minimal cost by increasing the size of your M-drive RAM-disc to that of the 8512 (112K to 368K). "A low cost memory upgrade . . . will immediately reduce disc copying to a simple two-stage process." "You'll also find it easier running big CP/M programs like Wordstar and SuperCalc . . . much faster."
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"If you go a stage further and add a second disc drive, you won't need to swap discs at all." There will be a significant increase in data storage capacity, for example text files when word processing and data files when running CP/M data processing programs. Suites of programs for the 8512 can be loaded onto and accessed from both sides of a high density disc.

Fitting the second drive is simple enough . . . Everything other than the drive is already there in your machine: the cables are ready wired and both LocoScript and CP/M software will recognise it automatically once it's fitted . . . you'll have to try pretty hard to get it wrong."

Internal PCW 8256 DS/DD Second Disc Drive 1 Megabyte unformatted (720K formatted)	£135
Memory Upgrade plus Second Disc Drive	£155

Supplied with simple, comprehensive fitting instructions. NB You will require CP/M version 1.4 to format high density discs. Amstrad will exchange earlier versions free of charge

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3 piece set in soft grey. Monitor and printer piped in maroon. AMSTRAD PCW hot foil printed on keyboard.

PC 1512 £8.50

2 piece set in ivory coloured nylon. Monitor piped in maroon. AMSTRAD PC hot foil printed on monitor and keyboard covers.

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THE GOOD SOFTWARE FILE

DATABASES

DataStore (née Data Gem)

£39.95 • Digita International • 03954 5059

A simple 'card index' type of database written in Mallard Basic. Although it is quite slow in some areas, it does use index files which makes retrieval of individual records quite quick. It allows calculations on numeric fields and can print out totals and averages from your datafiles.

PLUSES • MINUSES
- ⊞ Adequate performance on simple files
- ⊞ The manual has a good introduction on explaining database jargon
- ⊞ Numeric fields can be calculations, like in spreadsheets
- ⊟ Complex searches take a long time
- ⊟ Cumbersome to use for anything other than a simple lookup on a single field

Magic Filer

£69.95 • Sagesoft • 091 284 7077

Magic Filer is not a true database, but is a structured filing system. Information is split into a hierarchy of categories, and tagged with a keyword which is not stored as part of the data. You can browse through the data, but it will get tedious if you find it needs updating regularly. Many applications will find Magic Filer restrictive.

PLUSES • MINUSES
- ⊞ Good for browsing through data when you don't really know what's there
- ⊞ Data can be declared "read only" to protect it from alteration by other browsers
- ⊟ The basic filing system is weird but not wonderful
- ⊟ Editing data once in Magic Filer is awkward
- ⊟ The documentation is far too brief
- ⊟ You can only have one database per disc

Cardbox

£59.99 • Caxton Software Limited • 01 379 6502

As the name suggests, this database sets out to be a straight replacement for a conventional card index system. It doesn't provide any facilities for totalling up fields in different records, but does provide comprehensive ways of searching records. Very flexible screen layout, set up by a screen editor. Although a well established product, it is hard to see who would want a database which can't sort its data into order!

PLUSES • MINUSES
- ⊞ Very good control over the screen layout of each record (or "card")
- ⊞ Can put any title or prompt text anywhere you like on the card
- ⊞ The documentation makes Cardbox very simple to use
- ⊞ Wide range of data patterns that can be searched for
- ⊞ Elaborate indexes can provide efficient access to data
- ⊟ No way to sort the data into alphabetical order
- ⊟ No control language or field totalling facility
- ⊟ Slow to access unindexed data

dBase II

£119.00 • Ashton Tate/First Software • 07357 5244

RAW BUT POWERFUL!

The WordStar of database packages. Recently licensed "cheaply" for Amstrad machines, dBase II is a market leader in business computing. As you would expect, this means it is very powerful but very complex. It has a procedure language to allow you to write programs to manipulate the data, and you can construct index files for really fast access to large databases. If you can make the effort to learn it, it'll serve you well.

PLUSES • MINUSES
- ⊞ Powerful command language for customised programs
- ⊞ Indexing facility makes large databases fast to handle
- ⊞ Can handle very big databases
- ⊟ The data can be fairly easily altered after its entry
- ⊟ Manual is daunting (but there are plenty of independent books on the market)
- ⊟ Can't easily alter the screen record layout
- ⊟ For an expensive package, you still only get 32 fields per record
- ⊟ Generally unfriendly unless you have some programming skills

Datafile One

£30.00 • Datarun • 0332 810789

This database is both a low cost card index system and a mail merge utility specifically designed to work with LocoScript. As a card index, it's quite good for personal use, and the mail merge is simple but effective. Good value for money. The documentation is in the form of a database on the delivery disc.

PLUSES • MINUSES
- ⊞ Data can be range checked as it is entered
- ⊞ Complex masks can be used for searching the database
- ⊞ Quite fast record access for a low cost package
- ⊞ Report section (the mail merge) uses LocoScript documents for templates
- ⊞ LocoScript text styles (bold, italic, etc.) can be used
- ⊟ The screen editor for designing layouts is a bit too simple to be effective
- ⊟ No conditional processing in the mail merge section
- ⊟ The on-line documentation is a nice idea, but cumbersome in practice. Needs a proper manual.

Condor 1

£99.99 • Caxton Software Ltd • 01 379 6502

Condor is firmly pitched at the dBase II market. Like dBase, it is not only a filing system but also a programming language that allows command procedures for complex data operations. It can handle very big records — 127 fields — handy for some things like questionnaire processing. The user interface is slightly ragged, and it lacks dBase's ability to index files for fast access.

PLUSES • MINUSES

- ⊞ Very flexible record structuring and searching
- ⊞ Better control than dBase over the screen format
- ⊞ Command language for creating data processing programs
- ⊞ Can handle big databases — up to 127 fields per record
- ⊞ The manual is large, well written and understandable
- ⊟ No provision for fast data access by indexes
- ⊟ The on-screen prompting information is weak

Chibase

£49.95 • Chiasma • 06333 60996

A 'free format' database, which means you don't have to go through the usual rigmarole of defining your record format before you can enter your data. Instead, you just type text into Chibase, mark the words to be indexed, and it can then treat that file as a database.

PLUSES • MINUSES

- ⊞ Doesn't require you to set up a preset 'record' card
- ⊞ Searches through your data very quickly
- ⊞ Allows you to select up to 50 keys for each page of text
- ⊞ Allows editing of text without a word processor
- ⊟ No sample file for you to learn on

Pocket InfoStar

£69.50 • MicroPro/Davis Rubin Associates • 0386 841181

Consists of two large programs, DataStar and ReportStar (both available independently). DataStar is a conventional database, with screen card layout and indexing. ReportStar then generates the printed output, either from DataStar or CalcStar files. Powerful if you can use them, but the suite is horrifically overcomplicated, and the documentation just incomprehensible.

PLUSES • MINUSES

- ⊞ DataStar is a quite good database with indexing and calculated fields.
- ⊞ "Transaction processing" feature allows cross-referencing of data files.
- ⊞ Can be integrated with other Pocket products, eg WordStar.
- ⊞ Can take up to 255 fields per record
- ⊟ Two-volume manual set is very badly organised.
- ⊟ There are separate programs to run for form design, data entry and reporting.
- ⊟ Operation is all by obscure command keys, à la WordStar.

Microfile (Sold in The Micro Collection)

£49.95 • Saxon Computing • 0401 50697 — *GOOD VALUE!*

Microfile is a well implemented simple database, driven by plenty of menus and on-screen prompts. It's fast and has good screen control, although it has some size restrictions. Microfile comes as part of a software suite, "The Micro Collection", which is good value (Microfile, Microwrite, MicroSpread, Flexilabel and Lock-It)

PLUSES • MINUSES

- ⊞ The price includes competent word processing, spreadsheet, labelling and encryption programs
- ⊞ Plenty of menus and on-screen prompting
- ⊞ Very flexible formatting for screen layout and printing
- ⊞ Numeric fields can be expressions to be calculated
- ⊞ Indexing is fast and can be on several fields
- ⊟ Maximum number of fields per record is only 20
- ⊟ Limited facilities for totalling up fields in a database

Cardbox-Plus

£99.95 • Business Simulations Ltd • 0892 863105 — *FULL FEATURED & SIMPLE*

Business Simulations are the company who actually wrote the successful Cardbox database, and they are the sole distributors of their enhanced version Cardbox-Plus. Disappointingly, still no field totalling facilities, but it does boast sorting, index listing, disc management and an autosave feature as extras to Cardbox. The ultimate straight card index, if you have the money.

PLUSES • MINUSES

- ⊞ All the facilities of the very successful Cardbox
- ⊞ Cards can be sorted into order for browsing and printing
- ⊞ "Autosave" will regularly store the data to disc in case of mishap
- ⊞ Files created by Cardbox can be read
- ⊞ Full and good manual, although the tutorial is at the end
- ⊟ Still no way of performing numeric calculations
- ⊟ A lot to pay for a few frills to the basic Cardbox

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DATABASES GRAPHICS

Delta

£99.99 • Compsoft • 04868 25925

POWERFUL!

Delta is another of the heavyweights, like dBase II and Condor, but unlike them is fully menu driven. Although the screen layouts are fully flexible, there is a default "quick" layout so you don't have to sweat at defining your own. It could use better record indexing facilities. Particularly good for writing applications, once you have ploughed through the large manual.

PLUSES • MINUSES

- ⊞ Records can contain up to 90 fields, plus groups of fields that may be repeated
- ⊞ Screen layout can be user defined, or "quick" mode used
- ⊞ Single-page letter writer provides detailed mail-merge
- ⊞ Processes can be defined, and run from user defined menus, for ease of use by others
- ⊞ Very full, and quite readable, manual
- ⊟ Only one field may be used for indexing
- ⊟ Very big program - a PCW8256 would be hard pushed
- ⊟ Some of the menu operations are unforgiving to errors

FT=DB

£29.95 • Encyclasoft • 0270 811868

SIMPLE & EFFECTIVE

A free form database like Chibase, but instead of typing your text into the database itself, you create it on a wordprocessor first of all. Once done and edited to your liking, you mark all the word you want to be used as keywords (still in your wordprocessor) and then read it into FT=DB. Now you can treat it as a database, compile indexes, search for phrases and so on, all quite efficiently.

PLUSES • MINUSES

- ⊞ Easy to use
- ⊞ Versatile retrieval system over several text files
- ⊞ Inexpensive
- ⊞ Can move between index and text at will
- ⊟ No editing facilities within FT=DB

Smartcard

£59.95 • Focus Computer Systems • 0272 420109

A conventional card index database which bears a superficial resemblance to Cardbox. As ever, you have to define your record format before you can enter any data. Small and fast, you can sort the records, index on up to 3 fields, and do simple arithmetic in fields. Can't put background text (eg. titles) on records or printouts.

PLUSES • MINUSES

- ⊞ Good clear screens
- ⊞ Plenty of on-screen help
- ⊞ Fast and high capacity
- ⊞ Easy to use
- ⊟ Can't put background text on printed reports
- ⊟ No way of exporting data for mailmerge

Matchbox

£29.95 • Quest International Computers Ltd • 04215 66488

A cheap, no-frills card index type database. The manual is only 13 pages long, so you had better know how to use a database before you buy this. You can't customise screen layouts, but you can print labels. Would suit a simple booklist or address list, if you really can't afford better.

PLUSES • MINUSES

- ⊞ Clear on-screen menus guide you through the program
- ⊞ Can search for fragments of words in a record
- ⊟ No control over screen layout
- ⊟ Skimpy manual (13 pages) has almost no examples
- ⊟ All characters have to be upper case
- ⊟ Only a single index field is allowed
- ⊟ If you type fast, you will lose characters

GRAPHICS

DR Draw

£49.95 • Digital Research • 0635 35304

This is a drawing utility, which allows you to compose designs from circles, polygons, lines and a wide variety of shadings and styles of text. It's very cumbersome to use

unless you also have a light pen or a mouse, and overall not very friendly. Not recommended unless you're ready for some hard work.

PLUSES • MINUSES

- ⊞ When pushed, it can produce very neat diagrams, even on the standard PCW printer
- ⊞ Good, professional manual (although no mention of Amstrad specifics)
- ⊟ You need CP/M expertise to get it installed and going
- ⊟ Painfully slow screen handling
- ⊟ Difficult to use by keyboard alone – you must buy a lightpen or mouse

Graphics, the Universe and Everything

£19.95 • CP Software • 099382 3463 — *GREAT FOR PROGRAMMERS*

The full title is 'All you ever wanted to know about graphics, the universe and everything on PCW 8256/8512 ... but were afraid to ask.' Phew. A wide range of little programs to do graphic things on the PCW like smooth scrolling, defining windows, moving sprites around. The programs are written in assembler, with the source code provided if you want to see how to program them for yourself. Great for programmers.

PLUSES • MINUSES

- ⊞ Wide range of useful functions
- ⊞ Code can be used from BASIC, machine code, or any language
- ⊞ The assembler source code is supplied
- ⊞ Inexpensive
- ⊞ Good manual
- ⊟ A bit long-winded to use from BASIC
- ⊟ No way of loading *just* the routines you want

Video Digitiser

£99.95 • Electric Studio • 0462 675666

An black box which plugs onto the expansion port at the back of the PCW, into which you put a video camera or video recorder. It will then 'digitise' the picture it receives and display it on the screen. You can fine tune the thresholds for ideal contrast, and print it out to the PCW printer. Pictures can be saved and edited with the Electric Studio light pen or mouse. Nice, but expensive by the time you've bought a light pen/mouse too.

PLUSES • MINUSES

- ⊞ Automatically picks a good contrast level for the display
- ⊞ Can store pictures for the Light Pen or Mouse to work on later
- ⊞ Simple to set up
- ⊞ Range of different operating styles for high quality
- ⊞ Can print out on a full A4 page
- ⊟ Can't take simple TV signals – video only
- ⊟ Manual isn't very helpful if you need to manually tune the thresholds

Microdraft

£79.95 • Timatic Systems Ltd -0329 226727/239953 — *SPECIALIST BEST BUY!*

This package is essentially an electronic drafting board. Lines, circles, polygons, text and so on can be accurately placed on a page, and then scaled and rotated en masse. Microdraft is not an art package, so there are no freehand sketching facilities. Overall an excellent package, comprehensively designed and easy to use.

PLUSES • MINUSES

- ⊞ Elements can be positioned very accurately (better than the PCW screen resolution)
- ⊞ Discrete elements can be grouped into blocks and manipulated
- ⊞ Well written and comprehensive manual (except it refers to the CPC6128 keyboard)
- ⊞ "Zoom" feature allows you to work on fine detail
- ⊞ Supports output on proper graphic plotters
- ⊟ No "undo" facility
- ⊟ Hard copy output is very slow

Light Pen or Mouse & Graphics Package

£79.95 or £129.95 • The Electric Studio • 0462 675666 — *GREAT FUN!*

Ostensibly you are buying a piece of hardware — a light pen, or a mouse, that can be used with many PCW graphics programs, like DR Draw. In practice, its main use is with the software that comes with it, a very good picture drawing package. You can freehand draw, get airbrush effects, create polygons and circles, and move blocks of pixels. Great fun.

PLUSES • MINUSES

- ⊞ Light pen hardware is a simple module that slots onto the back of the PCW
- ⊞ You can draw by freehand pen control or with cursor keys for accuracy
- ⊞ Menu selections are easy to understand
- ⊞ Full range of functions for area filling, shading and spraying
- ⊞ Blocks of pixels can be moved and copied
- ⊟ You would need to know your way around CP/M to use the lightpen itself with other graphics programs

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- ⊟ Items on the screen are purely pixels, not distinct elements like in DR Draw or Microdraft
- ⊟ No positioning of items by numeric co-ordinates for accuracy.

DR Graph

£49.95 • Digital Research • 0635 35304

A rather specialised package, specifically for presenting complex data in graph form. Can produce line graphs, bar charts, piecharts, scatter plots, text, and compositions of any mixture of these. Very flexible, and easily operated by menus, but really needs a graph plotter to do it justice.

PLUSES • MINUSES

- ⊞ Can read data from certain spreadsheet packages (e.g.SuperCalc)
- ⊞ Extensive annotation and text placing is possible
- ⊞ Good, professional manual (although no mention of Amstrad specifics)
- ⊞ Supports a colour graph plotter as an output device
- ⊟ You need CP/M expertise to get it installed and going
- ⊟ There is no way of joining points by a smoothed curve

ExBasic

£11.45 • Nabitchi Computing • 051-708 8775 — *EXCELLENT VALUE!*

A utility program which augments Mallard BASIC's commands, allowing you to use quite sophisticated graphics functions. You can draw or erase lines, circles or dots, save and load screenfuls of data, pause, beep ... all with commands like PRINT ";DRAW";100,200; Guaranteed no machine code or POKEs needed!

PLUSES • MINUSES

- ⊞ All functions done by simple BASIC PRINT statements
- ⊞ No machine code knowledge needed
- ⊞ Good range of simple graphics commands available
- ⊞ Can save and load images once you've got them right
- ⊞ Very cheap!
- ⊟ Not quite fast enough for proper animations/games programs

COMMUNICATIONS

Communications is one of the glittering areas of computing, gurus would have you believe. It can provide a fascinating hobby for 'hackers', but more importantly it is a valuable business tool.

'Electronic mail' is just what it says: you use your PCW to send messages, which can be documents thousands of words long, to others on the electronic mail system. The best known system of this kind is Telecom Gold, which also allows you to send telexes. Another major system is Prestel, which is more of an information provider - - you can read share prices, weather information and other news direct from your phone line.

For any professional service, you pay a registration fee, plus a connection charge -- typically around 10p per minute you use the system. Of course, your phone bills are extra. For hobbyists, there are also 'Bulletin boards', which are effectively a kind of private electronic mail system run by a system operator (a 'sysop' to those in the know).

To use any service, you will need to buy a modem and an interface. A modem allows you to send computer signals down a phone line, and the interface gets the signals from your PCW to your modem. The pair will set you back £200 or more. Once done, you need some software to allow you to send and receive data, and it is this software reviewed below.

Electronic mail services just send strings of characters to and fro, whereas Prestel is a 'Viewdata' system, meaning it sends pictures and graphics too. Software needs to do more to receive Viewdata graphics, so if you want to use Prestel make sure your software is up to it.

CHITCHAT E-MAIL, VIEWDATA or COMBO

Sagesoft • £69.99, £69.99 and £99.99 • 091 284 7077 — *VALUE FOR MONEY*

Two communications programs for the 8000 series machines that have been around for a good time now. Most of the features you will need are here: message text editor, preprogramming unattended tasks(if you use a suitable "intelligent" modem), directory of stored numbers, copy to printer, and a very useful connect time clock so you can watch your phone bill climb! E-mail is used for simple text phone links like Telecom Gold, whereas you'll need Viewdata if you want to use Prestel. The Combo pack contains both E-mail and Viewdata.

PLUSES • MINUSES

- ⊞ Good, clear documentation
- ⊞ Easy for first timers to use
- ⊞ Built in text editor for pre-sending message preparation
- ⊞ Pre-definable tasks executable at any preset time if unattended.
- ⊟ No error corrected file transfer (i.e. Xmodem or CRC)

COMM+

£86.25 • NewStar • 0277 220573 — *POWERFUL, VERSATILE*

This has to be the one we have all been waiting for! This single package combines both ASCII and full Viewdata block graphics and Telesoftware downloading with many different terminal emulations available for ASCII mode. CRC and Xmodem file transfer compatible (if you know what they are). An autodialling program is incorporated that will work with most manual modems. Also a very powerful command language allows you to look for particular messages coming in and take actions, even while doing other things. Its use is only limited by your programming ability; it's ideal for those fed up with simple dumb terminal software programs!

PLUSES • MINUSES

- ⊞ Very comprehensive and well indexed ring bound manual
- ⊞ High quality Viewdata graphics
- ⊞ Well presented on-line help menus
- ⊞ Autodialler program works with most manual modems
- ⊞ Telesoftware downloading facility, with CRC/Xmodem checking
- ⊞ Very powerful command language, doesn't need much programming skill to learn
- ⊟ Slow with screen update in Viewdata mode
- ⊟ Text editor (used for message preparation) is slow
- ⊟ Not recommended for absolute beginners to communications

8256UKM7.COM

Public domain (ie. free!) — *INCLUDED FOR COMPARISON*

This Public domain software communications program has recently been released for the PCW series and is included for comparison. P.D. software documentation is often poor but this program has an above average document file. UKM7 was written to support ASCII file transfers using error correction and as a dumb terminal either for use over the phone or between two Amstrad's. Between two PCW's file transfer is possible at a staggering 31,250 baud which is even faster than PIP! Easy to use for beginners and better than KERMIT, UKM7 provides a cheap and excellent way to communications after you've got fed up with the PCW's MAIL232. 8256UKM7 is available from the Public Domain Special Interest Group, or most bulletin boards supporting the PCW machines.

PLUSES • MINUSES

- ⊞ Cheap! (the price of a phone call)
- ⊞ Easy to use, and helpful menus
- ⊞ Both CRC and Xmodem protocols supported
- ⊞ Single file and Batch Mode transfers
- ⊞ "Quiet" mode for slightly faster transfers (on-line transfer progress report disabled)
- ⊟ Only ASCII, no Viewdata
- ⊟ Difficult to obtain for users of Mail232 as does not support file transfer. However, a .HEX version is available which can be converted back to a .COM file using CP/M's HEXCOM program

NEXT MONTH

The guide continues next month with the categories of SPREADSHEETS, UTILITIES and EDUCATIONAL software . The month after that will cover WORDPROCESSORS, ACCOUNTS/ PAYROLL and GAMES software, and the month after *that* it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.50 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

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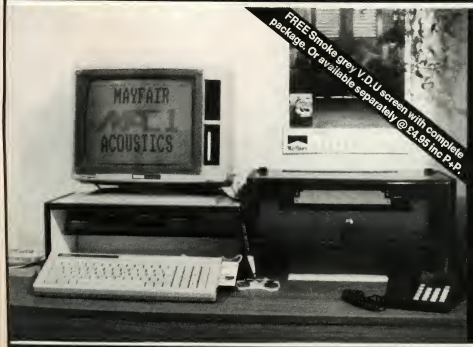

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TIPOFFS

The collection: issues 1-5

A PEAK AT THE CONTENTS

On LocoScript
Major articles on Headers and Footers, Tabs and Rulers, Producing Tables, and Laying out Business Letters. Plus scores of tipoffs: Overprinting, Foreign characters, Creating a letterhead, Better Underlining, Typing ahead, Speeding up Long Documents, Using Phrases, Mathematical symbols, Two-column printing, and numerous others.

On CP/M
Major articles on Disc-Handling (including how to make an auto-start disc), Customising individual keys, Controlling the Printer, RPED, SETSIO and DEVICE. Plus tipoffs on using PIP, function keys, screen printouts, SETKEYS, avoiding problems with DISCKIT, and many more.

Other TipOffs
Feeding Continuous paper, Label printing, Using A5 paper, Ribbon re-inking, Screen contrast, the free game of Life on your master discs, Boot discs for Cracker and NewWord, and a host of slick little tips for Basic programmers. To mention but a few.

At last the publication you've been clamouring for is here. We've put under a single cover the complete range of TipOffs published in the first five 8000 Plus issues. And there's more: the series of (so we're told) outstanding tutorial articles on LocoScript and CP/M reprinted from those issues.

To tie the whole package together is, published for the first time, a comprehensive index. So now at last you can turn instantly to the information you *know* we published somewhere but can't remember where.

So much material was covered in the first five issues of 8000 Plus this compilation is certain to become a constantly used reference book. Apart from anything else, it offers a chance to catch up on the bumper tips section in sold-out issue 2. *The 8000 Plus Tipoffs Collection* is printed on high-quality paper with a colour cover and we think it deserves a permanent place next to your PCW.

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Any task involving copying off paper is thereby made much easier and faster. In fact the clip supplied is sturdy enough to support an issue of 8000 Plus open, say, at the TipOffs section.

The Thingi can be positioned either to the left or right of the screen and can easily be removed and replaced if necessary.

A really sensible, cost-effective add-on for your PCW.

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Where the game excels is that it features both outstanding graphics and effective text description and interaction. The 8000 Plus reviewer awarded it five out of five across the board, so what could we do but rush out and obtain it at a discount for you our readers...? A magical purchase.

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Using the same chip that's fitted to the Amstrad CPC computers, it offers the power of producing all manner of sound effects, with full control of tone, volume and 'envelope shape' on all three channels.

Also built in is a standard joystick port – its programmable interface can emulate any set of five keys used in a game, say, for left, right, up, down and fire. The unit itself plugs straight into your PCW expansion port.

Sounds good? It will.

TOMAHAWK

Only £17.95 – save £2!

This program is a superb buy, both as an impressively life-like simulation of helicopter flight and as a challenging piece of entertainment. It gives you a pilot's eye view, including a detailed instrument panel and a 3D display of scenery outside such as trees, mountains and enemy forces. You engage the latter in combat using three different weapon systems.

Try it and be amazed at what your PCW is capable of.

SUPERTYPE

Only £16.95 – save £3!

This is the program that was known as *Fontgem* until its marketing was transferred recently from Gemini to Digita. Whatever the name, the software is gorgeous.

What it does is to offer you EIGHT new, radically different typefaces. And each of them has its own distinctive, professional appeal, giving your documents an original facelift.

So, if you want your printed output to look a bit different from all the other LocoScripted letters around, SuperType is what you need. The ingenious thing about the program is that once you've installed your favourite font on a disc, you won't even notice the program working. You can run LocoScript in the normal way and everything will be the same except that when you print out, the results are exciting. The software is compatible with CP/M too.

Great value at its full recommended retail price of £19.95, at just £16.95 it's another remarkable bargain from 8000 Plus.

This is Business 1 font
This is Business 2 font
This is Business 3 Font
This is Business 4 Font
This is Outline Font
This is Vaudeville Font
This is Olde English font
This is Stencil font

SPECIAL OFFERS

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Massive savings on the most sophisticated entertainment software you can buy!

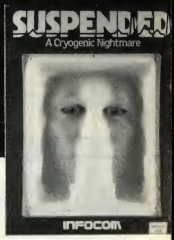
By popular request, here's another chance to buy our favourites from the remarkable range of Infocom adventures at remarkable 8000 Plus prices.

For many people, these programs represent the pinnacle of computer entertainment. What they offer you is NOT graphics or chase-a-blob arcade action. Instead you will find yourself placed in a fictitious world, described in superbly atmospheric detail, and face a sequence of brain-twisting challenges liable to keep you at the keyboard for months.

You communicate with the computer by typing in simple English sentences. If the program doesn't understand, it'll tell you, but the Infocom titles are renowned for their sophistication in handling language, and you'll soon almost believe you're communicating with an intelligent being. In fact, Infocom themselves describe these programs as 'interactive fiction' – it's like finding yourself inside a novel and having the chance of determining your own destiny.

Until recently these programs were not available in the UK for under £30. And for good reason. For one thing, the programs are massive, containing literally tens of thousands of words of description. For another, they're superbly packaged with all kinds of amusing little extras to accompany the comprehensive and witty documentation.

So to be able to pick them up through us for under £20 a piece is simply remarkable. Pull the curtains, shut out the winter and let your PCW transport you into a different world...



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BALLYHOO

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This one's set in a seedy circus in which you have to discover who has kidnapped the owner's daughter. It's packed from start to finish with puzzles of mind-boggling challenge. How do you get a helium balloon that's only reachable across a tight-rope? How do you soothe a gorilla with music when your radio seems incapable of clear reception? How do you trick a clown into letting you past his wagon door?

There are clues cleverly hidden in the accompanying documentation, but even with their help you'll be in for some long evenings!

WISHBRINGER

Only £19.95 – save £5!

A stunningly atmospheric game in the Infocom fantasy tradition. The action starts with you, the village postman of Festeron, discovering that a cat belonging to the keeper of the Magicke Shoppe has strangely disappeared. Your only help in solving what rapidly becomes a deep mystery is Wishbringer, a small stone bestowing seven special powers.

This program is especially suitable for people embarking on their first adventure. (It's also, however, been raved over by experts!)

We don't have space to tell you about the rest in detail, except to say they're all SUPERB!

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Danger on a hijacked spaceship

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Can you solve the murder in time?

POSTSCRIPT

The post opened, observed and output by an ever optimistic Ed

By the pile, by the sack and by the container load, your letters continue to bury our desks, PCWs and loved ones. Topics range as widely as ever, with calendars and sex forming the largest single subjects this month.

Please join the contributors to these pages by giving us your opinions, or try us out with any questions or problems you have. So long as they might be of interest to others, we'll do our best to print answers in the magazine (but no personal replies, I'm afraid). The address to write to is: *Post Script, 8000 Plus, The Old Barn, Somerton, Somerset TA11 7PY*

You can also contact us via Telecom Gold, using the mailbox number 84:TXT152.

Girls and boys and garage mechanics

With reference to a letter from February's issue of *8000 Plus*, on the alleged sexist content of your magazine.

I am not an overly sensitive person, but I am one of the group that Ms Ranelagh places on the lowest rung of the intellectual ladder. Yes you've guessed, I'm a mechanic or as we like to be called nowadays, a technician.

If Ms Ranelagh thinks I and my kind are so lacking in brain, she should try fault finding on some of the computers and electronic hardware modern cars now carry on board i.e. engine management systems, antilock braking and now even a computer that remembers what position your seat was in.

So please, Ms Ranelagh, don't look down on us lowly mortals just because we have to get our hands dirty to earn a living. Who knows, one day you may even need a mechanic to repair a fault on your car that you can't cure yourself.

Steve Reynolds
Tamworth
Staffs

The modern day vehicle requires a high level of intelligence to diagnose and repair. Many dealerships now operate computer systems efficiently with your 'average garage mechanic' at its terminal.

Ian M.Deakin
Deakin Auto Services
Bolton

I apologise to Ms O'Beirne-Ranelagh for the apparent sexism of my 'page 3' cartoon. I had intended it more as a comment ridiculing the 'page 3' mentality rather than reinforcing it, but unfortunately maybe it missed the target.

I am usually very aware of any sexist attitudes in both my own work and the work of others, and so in my cartoons I do try to include women in non-supportive roles – even though I can't draw them very well!

Chris Garrett
Birmingham

Points taken on all sides.

Which guide?

In your reply to Paul Barrey's letter printed in the January 1987 issue of *8000 Plus*, you suggest the purchase of the BASIC Manual from Locomotive Software at £9.95.

The Amstrad User Guide to the PCW8256 Word Processor states (in the Introduction) that the use of BASIC is covered in the 'Guide to Mallard BASIC' available from AMSOFT at a price of £5.

Which of these two official manuals would you recommend as the definitive guide to all that the budding programmer needs to know about Mallard BASIC, as implemented on the Amstrad PCW8256?

W.H. Black
Chippenham, Wilts

The Locomotive Guide, although neither will cope with every conceivable aspect of the language.

An impressive letter

Could any of your readers help me over a strange bug that has turned up on one of my discs?

If I try to create a new document on that side, every time an old letter appears that I threw away into Limbo long since. Whatever title I give the new document, the same letter comes onto the screen. I *can* edit other texts that are on the disc – but I cannot create *new* ones without first erasing the omnipresent letter (one page of A4) by using 'cut'. Has anyone else met with this idiosyncratic lapse from the Amstrad's normal good behaviour?

Revd John Ticehurst
Braunton, North Devon

It's not a problem I've come across. One solution would be to copy all the other files onto another disc and then reformat the offending one. If it happens again, abandon the disc!

BASIC editing

My Dad bought a PCW 8512 about two months ago now. I have become quite familiar with LocoScript and what it can do and I am now starting to explore CP/M.

When using this I found I had problems using RPED.SUB (the program which edits ASCII files). When I try to load in an ASCII file I created with LocoScript the editing screen appears but no text comes up on the screen. I would be very grateful indeed if you could send me some information on how to operate RPED.

I would also like to know how the computer loads in programs like LocoScript from scratch (when turning the computer on) and how do you load in BASIC programs from CP/M. I have looked at the RPED.SUB file using the program itself and I do not understand it. I have read through the manual and I can not find any information about loading these Basic programs from CP/M.

S.Watlins
Tunbridge Wells, Kent

The RPED program is intended for short BASIC listings, up to about 200 lines. I suspect you are either trying to load a file longer than this, or hadn't saved your LocoScript file as a 'Simple text file'.

To load a BASIC program, you have to load BASIC first. There's no way round this, though you can automatically load and run a BASIC program by writing a SUBMIT file, or by doctoring your version of CP/M, as described in the February issue of 8000 Plus.

"VERY USER-FRIENDLY PROGRAM, THAT..."

All that jazz

I wish to prepare a short index for my bulky collection of jazz records. It would resemble an index for a textbook. Thus I want the information in each record to be compact, rather than spread out as on a index card.

One item might be: Marsala, Joe 4,6,8,C7.

However, the data would be typed in from up to four items in my existing non-alphabetical list. In fact, the final record would be produced by on-screen editing. Which is the most suitable database or whatever?

Oh, by the way, I now want to index any items of use, from the magazine, such as Tipoffs. These are becoming bulky too.

Sidney H Scott
Watford, Herts

See our review of Masterfile 8000 in this issue. It's ability to display up to 28 records per screen might suit you well. See the special offers pages for something that might help with your Tipoffs collection.

Filing the pinch

On the subject of Basic files. When I store a Basic listing, (on Drive A: or B:), is this automatically stored in a vacant area on the disc? If the disc is almost full, is there a danger of over-writing previous work? And finally, if I store a second program with an identical file-name, will it automatically over-write the first program?

And with reference to one of your published Basic programs (issue 4, p.56) the 'Auto Menu' program was most interesting. One small problem though. I, and I suspect most 8512 owners, tend to store Basic programs on a disc in Drive B, just as we do when using locoscript files. So correct me if I'm wrong (and I'm sure you will!), but I couldn't get my Basic programs stored on Drive B: to list using the program as written. There are also one or two Basic programs in the Amstrad Guide to Mallard Basic which would benefit from a similar routine.

Can you suggest a modification that will allow me to access my Basic files from Drive B:? I'm sure that others would find this useful too.

Barry Watts
Hendon, London

Any file stored to disc will be saved into a vacant area on the disc. If this means breaking the file up into small bits and filling in the gaps between other files, then CP/M will handle this automatically. If the disc is full, CP/M will report it – it won't overwrite existing files, unless you specify an existing filename.

If you do specify an existing filename, CP/M will save the file under the name you've given it, but with the filetype .$$$. Once it's certain the new file is saved on the disc, it renames it with the filetype you gave. This is why you must have sufficient free space on the disc to house a complete copy of the file you're saving, even if you're using an existing filename for the new file.

You can get the auto-menu program to read the B: drive by loading the program and typing OPTION FILES "B:" before running it.

Quick LOGO

I can get Dr Logo without all that kerfuffle on page 84 of theJanuary issue. All I do is load in the usual way, insert a copy of side 4, and type LOGO and behold Dr Logo is at my service. No way will my 8526 respond to SUBMIT LOGO, as in the manual, nor will it have anything to do with your loading logo programme.

Victor Chudley
Windsor

The method you mention does work, but without setting the keys up for the LOGO editor, you'll find it very difficult to edit a LOGO procedure. The instructions we gave for creating a bootable LOGO disc do work, and set up the keys correctly.

Dates and Figures

I am afraid there are more restrictions than are indicated in your introduction in Listings Plus, February, in the period for which Thomas Sykes' elegant little calendar program is valid. In 1752 England finally joined most of Europe by adopting the Gregorian calendar, so going from Old Style to New Style dating.

In that year the missing 11 days were corrected for by going from Wed 2nd Sept to Thursday 14th Sept. In the year 1752 and earlier, the year was held to begin on Lady Day, 25th March. Furthermore, the year 1700 was not a leap year in NS, but it was in OS.

I am sure that Mr Sykes will have no difficulty in modifying his program to correct for these little local difficulties so far as England is concerned, but will need to remember that 1700 was not a leap year in NS, but it was in OS. Users will have to beware because Scotland altered the beginning of the year to Jan 1st in 1600, though otherwise kept the same dates as its southern neighbour.

Furthermore, the 11 day difference was only 10 days until 1700 because of the differing leap year definitions.

Basil Rose
Abingdon

The *tropical year* is 365.242 days long and to adjust for the 0.242 days, an extra day is added every fourth year, i.e. when the year is divisible by 4, but not in century years unless divisible by 400. Therefore the years 1900 and 2100 are not leap years, although divisible by 4.

H.Fletcher
Bridgend

These are just two examples of many letters we've received about the change of calendar and the calculation of leap years. You don't let us get away with anything, do you?

Anyway, A.M.Tucker sends two lines of BASIC which correct for the century year's problem. They're rather complex, but if you need them, here they are. The 'backslash' character '\' is produced by pressing [EXTRA]1/2, twice!

Mr Sykes' program can be corrected by alterations to lines 140 and 170. Line 140 should read:

```
L=Y+12+(Y+3)\4-
(Y-1)\100
+(Y-1)\400
```

and line 170 should read:

```
IF Y\4=Y/4 AND
(Y\100<>Y/100
OR Y\400=Y/400)
```

A.M.Tucker
Dorchester

Spurious spellings

I enjoyed Ben Taylor's LocoSpell in Action piece in December's issue, it coincided nicely with the delivery of my cut price order via your pages. LocoSpell is just the job for me.

The following gems have surfaced in my recent jottings with some Banks & Building Societies ref: Ben's – 'Family Fun' – piece.
BIRMINGHAM & BRIDGEWATER becomes BILINGUAL & BREAKWATER
BRISTOL becomes BRISTOLS
HALIFAX becomes HABITAT
LLOYDS becomes LLAMAS
WOOLWICH becomes WOLFISH
and to pinch a phrase from elsewhere, I bet not many people know that?

Can I close with a Public Domain Freebie. Rather than pay somewhere between £5.95 and £9.19 for a bit of bent plastic with a bulldog clip on it; try a DIY version with an 18 inch length of 1 inch wide plastic strip, twisted in the centre under the heat of a hot air paint stripper, stuck on the computer via 4 bits of double side sticky pad, with a bulldog clip on the other end to hold your copy, it took me 10 minutes and its great!

John R May
Yelverton, Devon

Sounds good, although you don't explain 'plastic strip'.

Wide print

Could your brilliant young backroom men, or women, advise on a problem that must be of interest to other users besides myself. I have a PCW 8512 which is used mainly for database purposes. Originally I bought DataGem (now in liquidation) and when I found the program would not add up I bought, and use, Delta.

My outputs from Delta are 80, 120 and 150 characters wide. The standard PCW type face output only caters for 80 characters. If I run a report wider than 80 characters I have to exit from Delta, go into CP/M, change the print style and then go all the way back into Delta just to run one report.

DataGem, whatever its faults, immediately recognises output reports wider than 80 characters and changes the print style from within the program.

Can you advise if it is possible when in Delta to change the print style? To do so automatically, like DataGem, would be best but if not some sub-routine that could be set up on the main menu and taken into Delta under the 'learn' routine would be acceptable.

Julian Chitty
Aylesbury, Bucks

I don't understand your reference to DataGem (now called DataStore and marketed by Digita – 03954 5059). DataStore can perform all four arithmetic operations on any numeric field.

As far as Delta is concerned, perhaps some other user will be able to explain how to control print output from within the program.

Stats static

Having survived 2 gruelling years of University statistics courses, I'd spotted reference to the AMSTAT package amongst the small ads. (Anything that refers to Mr Sidney Siegel's bible of nonparametric statistics must be worth a second look!)

I was initially pleased to see the package reviewed in the January issue, but this turned to disappointment. Instead of covering aspects like accuracy, and fidelity to standard formulae, the review said little and made some erroneous statements:

1. Statistics is not simply 'useful for processing experimental results and the like'. This popular concept sadly persists through uninformed dissemination such as this article. Statistical tests are only used correctly after careful experimental design, (designated post-hoc tests excepted!)
2. The nonparametric tests stated (X2, K-S) etc. are not 'far more complicated routines' than those contained in AMSTAT 1, as Mr Gould suggests. Nonparametric tests, on the whole, employ more simple formulae than parametric ones.

Please tighten up your act! I like a lot about 8000 Plus, but please retain your 'street cred', by publishing accurate and carefully considered information. If you continue to make too many slips, in too many fields, you could lose a lot of readers. Don't let it happen!!!

Alice Salway
Loughborough, Leics

Reviews in 8000 Plus *are written for the intelligent lay reader. They are not assumed to be experts in any particular field. Those involved in statistical study are likely to view their subject very differently from the person who uses it as a tool in other work. It is precisely to maintain 'street cred' that we get users to write our reviews rather than 'experts'.*

LOGO text

In answer to J.C.Flenning's enquiry in his letter 'NOGO LOGO'. He can combine text and graphics in the same area. Listed below is a short LOGO procedure which will do what he asks, together with an explanation of each line.

```
to square
cs
repeat [fd 100 rt 90]
setcursor [49 12]
pr [Bill]
end
```

name of procedure
clears screen and 'homes' the turtle
draws a square
sets the cursor to position 49,12
prints 'Bill' at cursor position
ends the procedure

W.J.Stonham
Stranraer

Simple when you know how...

Making a hash of it

I was most intrigued with the 'Scrivener' programme which forms part of your free software disc presented to early subscribers to *8000 Plus*. However, I am having difficulty in trying to run it on my PCW8256. On following your suggestion to have a look at the lengthy instructions contained on the disc itself in the file SCRIVNER.TXT, I duly displayed them on screen while also making a printout. The first thing I noticed was that whereas on the screen all Scrivener commands were preceded by a hash (#), on the printout they were preceded by a pound symbol (£). Futhermore, in the examples within the text of the Scrivener instructions, where a '£' is clearly the required character and also the character which appears in the printout, on screen a hash (#) appears. This is confusing, since it leaves me unsure which character to use when trying to reproduce the Scrivener examples.

Is there something I have overlooked or failed to understand?

I appreciate your advice which accompanied the disc that MML Systems Ltd can sell me a book on the program for £9.95 (or should it be #9.95?), but before following that suggestion I would want to be sure that I could take advantage of the book. Making £'s out of #'s may be all very well for the retauranteurs, but making a # of my £'s does not appeal to me.

L.A.R.Knight
Suffolk

This is an idiosyncracy which crops up in a number of different places. Basically, the pound sign is not included in the standard ASCII character set up to character 127. To get over this, a pound sign is often given the same number as the hash symbol, and this is the case on the PCW printer. Whenever it encounters a hash symbol, it prints a pound.

Through the oblong window

In the Post Script section of the December edition of *8000 Plus* Paul Ryan writes bemoaning the failure of his 8256 printer to accomodate his favourite envelopes. The solution is easy, economical and time-saving. He should buy A4 window envelopes, such as the one in which this letter is sent.

It will take only a few minutes of experimenting to find out where to place the address on the letter so that it will appear in the 'window' after folding. Several advantages accrue. First you keep a copy of the address in your Locoscript document, second it is impossible to put the wrong letter in the wrong envelope, third there is no messing about with self-adhesive labels or biros to add addresses.

The recipients of your letters encounter an extra bonus. At first imagining any window envelope to contain a bill, they will be pleasurably relieved when they pluck up enough courage to open it!

Ken Dunn
Southampton

Assuming they don't bin them automatically! The LETTERS template provided with LocoScript automatically aligns the addressee's name on a piece of A4 paper, when folded into thirds.

Beat the clock

My groan is a small one: Page No. 35 of Jan. issue describes the route along which I can Logo my way to a clock. There is however, something Dr. Logo keeps reminding me – m h and h h are not primatives he recognises.

What is expected of me?

R.O. Judd
Sunbury on Thames

There is a sneaky typographical error in the clock listing – Sorry. The open bracket character '(' in line nine of the 'clock' procedure should be the '"' character. With this amendment, the program will work as printed. Do check the spaces between program elements, if you're still having trouble. I hope this sorts out Alistair Beckett's problem, too.

No solution

Please do print hints and tips for adventure games, but please do not print complete solutions. For example, I read in another magazine (I forget which) the exact sequence of events to get the babel fish in Hitch-Hiker's Guide. So when I arrived at the dispenser I followed the directions and was rewarded with the fish. I was a bit disappointed, there was none of the earlier satisfaction after having solved the puzzle. I felt cheated, which is exactly what I was.

So just print the hints. I'll admit that I'm stuck behind the intelligence screening door, and a hint to the direction I should proceed would be nice, but I really don't want explicit instruction.

Any chance of some articles/reviews on desktop publishing?

Steve Hatherley
Sidmouth

You are unlikely to get through the door until you've mastered some of the other locations you can be transported to from the ship.

We'd be happy to write about desktop publishing, if there was any DTP software available!

"IGNORE HIM – HE'S JUST BEEN PLAYING ONE OF HIS ADVENTURES!"

Hard disc hardship

I recently purchased a WEB hard disk for my 8512. The unit works very well except for the following unusual effect.

If the hard disk is connected to the 8512 via the expansion slot (but not running) and I use Locoscript, I have found that after leaving the cursor in the disc management screen over a file in the M: drive for more than 5 minutes, nothing can be done using the keyboard (including Shift, Extra and Exit keys). Can you or any

reader not using the WEB please inform me if they have had this problem.

I would also like to know whether Concurrent CP/M 86 software is available to use two 8512's as a multiuser system. The above software is mentioned in the Basic Manual (Jetsam section) which accompanies the 8512.

R. Dennington
Reading

Your WEB problem sounds like a hardware fault in either the PCW or the hard disc unit itself. Check that your PCW doesn't 'hang up' when not connected to the WEB.

Concurrent CP/M 86 is designed for IBM PCs and the like, and won't run on the PCW.

Two things

1. In the otherwise helpful introduction to Dr Logo (January, pp. 34-5) there are two lines in the 'hands' part of the clock programme which I don't understand. These are `make "mh item 1 rl` and `make "hh item 1 rl`
the problem is I don't know how to get the symbol `l`, so that when I try to run this I keep getting an error message. Can you help me?
2. Would any of your readers be able to tell me why it is that whenever I enter the catacombs in Infocom's *Leather Goddesses of Phobos* I get killed no matter what I seem to do!

Mac Daly
Oxford

The symbol is a lower case 'L' – that's the last time we typeset any listings! I can't answer the Leather Goddesses query, I'm afraid; can anyone else? As an aside, that adventure has just one the 'Top adventure of 1986' award.

In praise of WordStar

I would like to point out some (I suspect deliberate) inaccuracies in David Langford's article about wordprocessors. I confess to owning and liking NewWord (a WordStar look-alike), and having pretty well thrown away my Locoscript, so I am not unbiased).

1. Locoscript is *slow* moving between pages, an important point when writing a book directly on a computer, as it is important to be able to check back on work done to ensure continuity.
2. NewWord (and I'd assume WordStar) *does* allow you to use the arrow keys *and* other special Amstrad keys via the CP/M SETKEYS command and the KEYS.WP file on the system disc. However, it is sometimes faster to use the small cluster of keys round the E-S-D-X diamond to search round a document.
3. When I was a kid I was given a toy typewriter where instead of keys, you turned a dial to the right letter, then pressed a single key. It was very user-friendly, but QUERTY is somewhat faster! However, my first typewriter did prepare me for Locoscript. And while I admit it took me 2 minutes to learn ↑ K for save and block and ↑ J for help, I didn't have nearly as much difficulty with ↑ P for Print and ↑ O for On-screen formatting.
4. I'm sure there are, or will be, faster, better word processors than NewWord, and possibly Protext is one. However, on an 8512, NewWord can be much speeded up by copying other useful utilities into the M: drive and operating it from there. With data files in B:, I have A: free for the spell-checker or Write-Hand-Man. I then don't have to wait for disc access for messages.
5. A small point but to me very important. The NewWord cursor doesn't *continuously Flash* at me when I'm trying to compose a document. This in itself has reduced my frustration level tenfold.

I hope David Langford's article doesn't persuade people to stay with the much inferior Locoscript.

Peter Philippson
Manchester

I bet that'll start a long and intense controversy.

El for One and One for El

Enclosed is a copy of my listing of the program '*BASIC construction kit*', and I would be very grateful if you could advise me where I have gone wrong.

My computer puts a space in lines 260, 270, 280, 290, 320 and 340, between the number and the '$' sign, there is no sign of a space required. I have changed the '11$' for '11$' etc, but the program is unable to accept this either. It throws the line out with the message 'SYNTAX ERROR'.

PA Robins
Wembley

The program was printed correctly. You nearly cracked it when you changed the name of the variables concerned. I'm afraid it's the old number for letter problem. As described in the 'How to type it in' box in 'Listings Plus', there is often confusion between lower case 'L' and figure '1', and '0' and capital 'O'. We now take steps to change variable names in listing to try and avoid this.

In the BASIC construction kit, the variables in the offending lines could be translated to 'L1$', 'L2$' and 'L3$'. The program should then work.

Renumber a bit

I am a beginner at BASIC programming, so don't always allow enough lines between routines etc to add new bits of program.

I know I can overcome this by using the RENUM command, but that just rushes through and renumbers all the subroutines as well. Is there any way of renumbering say lines 10 to 2000 only.

Gill Smith,
Hurstpierpoint,Sussex

Although you can't renumber a section of program on its own in Mallard BASIC, you can renumber from any point in the program to the end. The three parameters to the RENUM command are new-line-number, old-line-number and increment. If you want to renumber a routine which currently starts at line 100, so that it begins at 1000, you would type RENUM 1000,100,10.

If you then list the program and spot the beginning of the next routine at 1210, for instance, you could renumber it to start at, say, 2000, with the command RENUM 2000,1210,10. You can continue through your program in this way until you have renumbered the entire listing to your satisfaction. There's no short cut, I'm afraid.

Raising the dead

Can you help resolve a problem? Is it possible to recover Limbo documents (I know you have to know the title)? I was under the impression that the earlier limbo documents were lost when additional space was required – but provided there is space on the disk, can you recover? If so, how? I have tried pressing f8 and then ticking 'limbo' – all that happens is that the Disk Manager Screen shows limbo files – but can you ever read the content (provided it hasn't been cut)?

I liked your CP/M pull-out centre page.

Georgette Behar (Mrs)
London

You need the 'Rename' menu. Position the cursor over the required filename and press [f5]. Select 'Recover from Limbo', and rename the file if you need to. You should then be able to edit the file like any other.

Laser luck

February's edition of your excellent magazine contained an article '*The Write Type*', in which it was stated that laser printers don't work with a PCW.

No so! I enclose the results of a successful experiment in laser printing using a PCW with Protext, a CPS8256 interface and a Hewlett-Packard Laserjet printer. The quality of the print is astonishing, and we intend to use this system to typeset future copies of our Parish Magazine.

We are in the fortunate position of having a Hewlett-Packard factory in our parish and they have kindly given us access to one of their printers. So it is a case of doing the word processing at the church, popping the PCW into the car, and then printing it off at the factory.

Rev John Carrie,
South Queensferry

I stand corrected, and very impressive it looks too. All we need now is for a crop of new Hewlett-Packard factories to spring up in the parishes of other needy PCW users. They could start with one in Somerton...

```
*****************************************************************
                 QUEENSFERRY PARISH CHURCH
                   SUNDAY PROGRAMME.
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11:30 - 12:30 MORNING SERVICE.              7:30 -  9:30 YOUTH FELLOWSHIP
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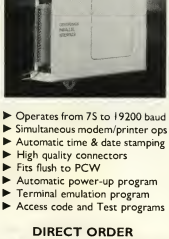

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